

NO CHILD LEFT BEHIND: IS IT ABOUT TIME?
ELEMENTARY SCHEDULING PRACTICES IN THE COMMONWEALTH OF VIRGINIA
SINCE THE AUTHORIZATION OF NCLB

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ABSTRACT

Time, the one educational resource educators desire most, is so often in short supply in America's schools. The ability of the school administrator to schedule teachers' and students' time so that both groups can maximize opportunities for teaching and learning each day has become an essential skill. Changing the structure of the school day to extend learning opportunities requires that administrators, teachers, and students have a firm commitment and clear understanding of the educational resources and processes of time. Successful practices regarding the use of time include: (a) careful planning and design, (b) adequate staff preparation and training, (c) effective use of extended time, and (d) a focus on equal access for students to multiple learning opportunities. Schools are under enormous pressure to show, through improved test scores, that they are providing every student with a thorough and efficient education. A review of the literature on alternative scheduling practices that use specified and structured blocks of learning time, focuses, overwhelmingly, on high school alternative scheduling models. However, there is a paucity of current research on the effects of alternative scheduling practices on elementary school cultures even though the elements of one particular method, parallel block scheduling, have been employed for over 30 years in elementary schools. This lack of research points to the necessity of exploring the benefits of alternative scheduling practices for delivery of instruction as well as changes in elementary school scheduling since the implementation of the No Child Left Behind mandate.

DEDICATION

This study is dedicated to my mother, the late Mrs. Dorothy Graham-Wheeler, who taught me to nobly endure, respond to, and initiate choices in life, for choices provide setting, scope, and sequence to a life fully lived, a spirit freely released, and a love richly shared.

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“I shall pass thru this world but once. Any good, therefore, that I can do, or any kindness that I can show to any human being, let me do now and not defer it. For I shall not pass this way again.”

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CHAPTER 1

THE PROBLEM

In this day of accountability and standards-based learning, educators are acutely focusing on using time more effectively. Administrators have to consider alternative scheduling decisions, organizational and program changes, and the potential effects of these events on student success. Today, federal legislation has complicated this broader view of knowledge. The federal legislation, No Child Left Behind (NCLB), focuses heavily on using reading and mathematics test scores to determine whether schools are making progress in reducing achievement gaps among various subgroups of students. This narrow focus has resulted in a serious imbalance that denies many students access to high-quality curricula (Cawelti, 2006, p. 64).

A school administrator in the twenty-first century requires multiple and unique talents because of the demands placed on time, resources, staff, facilities, and students. Quite often principals are expected to employ multifaceted skills of an architect, a lobbyist, a motivational leader, and an engineer. According to Shortt and Thayer (1997), educators across the nation are rethinking the organization of the school day in relation to how it impacts upon time management and academic achievement.

Context

As educators, we must recognize that all voices, including those of students, are vital to democracy. Unfortunately, the current emphasis on standardized testing and rote learning encroaches upon many students' joy. In their zeal to raise test scores, too many policymakers wrongly assume that students, who are interacting in groups, laughing, or being creative in music, dance, or art are not doing *real* academic work. A study that predates NCLB legislation (Hargrove, 2000) offered this conclusion about the effects of high-stakes testing on the curriculum:

Of greatest concern is the enormous amount of time that is being spent on reading, writing, and mathematics at the cost of instruction in science, social studies, physical education, and the arts. The elementary teachers studied typically spent seventy-five percent of their time teaching reading and math, leaving inadequate instructional time for other subjects. (p. 23)

Canady and Rettig (1993) suggest that principals are definitely the change agents. However, they cannot effect any lasting change without sufficient staff preparation and orientation. Certainly, resistance to change must also be anticipated. A schedule change can be of such significance that frustration and stress will accompany it. The focus should be on facilitating and creating an appropriate scheduling solution that meets the unique needs of each school and every child.

The change from a traditional to an alternative schedule necessitates a number of steps but none is more important than planning and implementing effective staff development. Fullan opened the first chapter of the 1990 *ASCD Yearbook* with the statement:

It has well been known for at least 15 years that staff development and successful innovation or improvements are intimately related. However, even in the narrow sense of successful implementation of a single innovation, people have underestimated what it takes to accomplish this close interrelationship fundamentally. (p. 3)

According to Fullan (1990) significant change requires powerful staff development strategies, both formal and informal, resulting in the agenda: “to work continuously on the spirit and practice of the life-long learning of teachers” (p. 22). So important is staff development to positive outcomes on the alternate schedule that Canady and Rettig (1996) stated,

What teachers do with students in their classrooms is still the most critical component of any change effort... We remain convinced that to fully achieve the potential of block schedules, schools must provide staff development opportunities which prepare teachers to utilize strategies which engage our active learners. (p. xix)

According to Canady (1990), the basic organization of elementary schools has not changed over the last 30 years. Typically, classroom teachers are randomly assigned heterogeneous groups of children and they remain primarily responsible for these students throughout the school day. Children many times leave the classroom for various support services.

In 1989, Canady developed a method of scheduling for elementary schools called parallel block scheduling which he describes as a model for restructuring the distribution of school resources. Parallel block scheduling uses a 50 – 75 minute block of time for the core subjects of

reading and mathematics. Students are grouped homogeneously for direct reading and mathematics instruction taught by the homeroom teacher. While one group is receiving instruction from the homeroom teacher, the other group is receiving enrichment activities in an extension room with another teacher in the areas of technology, science, and/or social studies. One feature of the model is that it reduces the student-teacher ratio during reading and mathematics instruction.

As with any major educational change, there are ardent supporters who espouse that longer blocks of instructional time provide a platform for improved instruction and student learning (Canady, 1990; Canady & Rettig, 1996). On the other hand, vocal critics would suggest that block scheduling leads to gaps in learning and lowered expectations (Elmore, 1995 & Raphael, 1996). Many approaches to reforming and improving schools have to do with control and standardized testing. The Association for Curriculum Development (ASCD) and the ASCD Commission on the Whole Child are attempting to start the conversation in a different place. According to Price (2007), this is about children – how to foster healthy, balanced, well-educated children. So what do children need? How do we structure schools and the school day to support those needs? What policies and practices flow from that vision?

A review of the practitioner literature over the past five years shows many of the leading educational journals publishing articles extolling the virtues of block scheduling at the secondary level (e.g., *The School Administrator*, *Educational Leadership*, *Phi Delta Kappa*, and *NASSP Bulletin*). There are massive numbers of websites of schools and consortiums reporting positive results of block scheduling including improved school curriculum, student attendance, and achievement.

This movement has been bolstered by several national commissions such as A Nation at Risk, Report of the National Education Commission on Excellence (1983); Prisoners of Time, Report of the National Education Commission on Time and Learning (1994); legislation such as the Goals 2000: Educate America Act (1994); and High School Restructuring: A National Study authored by Gordon Cawelti. Prominent education authors such as Joseph Carroll and Lynn Canady have often championed block scheduling in secondary schools and parallel block scheduling in elementary schools as methods to reduce discipline problems and to improve student learning.

In his speech accepting the Republican nomination in 2000, George W. Bush spoke of the ‘soft bigotry of low expectations.’ His NCLB initiative has since become a far-reaching piece of national legislation intended to raise low expectations and give equal learning opportunities to all children. However, according to Bracey (2003), what we now know from research conducted in various states is that the curriculum emerging in response to NCLB’s testing mandates lowers, rather than raises, expectations. He reports that teachers have become deliverers of a standard curriculum, geared toward the tests, with a pacing schedule designed to finish the material in time for the tests. To offer real educational equity, he believes teachers need to employ differentiated instructional practices that help children develop the cognitive processes, the skill sets, and the social capital that give rise to successful engagement in our society (p. 78).

One premise of NCLB is that the constant pressure of a rigid testing program will somehow generate more learning in the classroom which in turn will lead to higher test scores. Even though some state scores have risen in the last few years, students’ scores on the National Assessment of Educational Progress (NAEP) have not followed suit, according to Fuller (2006). Fuller has also found that the gap between the two testing systems has widened over the last several years, and has thereby questioned the validity of the state tests. According to Klein (2007), the gaps between the average NAEP scores of white students and those of children of color have widened as well.

Dewey (1938), described education as life, not as preparation for life. Students live much of their lives in school, and how well a school helps them live their lives is the true measure of a school’s real yearly progress.

Background of the Problem

Change is taking place in elementary schooling as schools move to implement varied scheduling practices in order to meet federal and local mandates. These changes are expected to bring results, including better use of time, increased implementation of varied instructional strategies, and greater student performance and teacher satisfaction. Although NCLB is now the prescribed treatment for the achievement gaps in our nation’s schools, it has some serious side effects.

Schools across the nation have incorporated a number of scheduling methods such as the extended school day, allocated time – the number of minutes, days and hours scheduled for

instruction, longer uninterrupted instructional blocks of time, staggered arrival times for students and teachers, parallel block, intensive and modified block, and year round schooling. These scheduling changes have had varying degrees of success. These methods of using time challenge the traditional organization of elementary schools. Despite empirical research that class size and student engagement time have been associated with student learning in elementary schools, there has only been a stronger commitment made, over the last five years, to organize and manage instruction using organizational strategies that are alternatives to the traditional classical self-contained classroom of the elementary school. The traditional organization often results in unsatisfactory class size and reduced student engaged learning time. Therefore, educators have begun to analyze and rethink their options regarding the issues of time and learning.

Wiggins and McTighe (1998) indicated that students are the primary clients of educators, and “the effectiveness of curriculum assessment and instructional design is ultimately determined by their achievement of desired learning” (p.7). Standards are needed to inform and give shape to those responsible for educating children. Wiggins and McTighe continued by stating, “We are guided by national, state, district, or institutional standards that specify what students should know and be able to do” (p.7). They also indicated that standards should provide a framework to help educators identify teaching and learning priorities that guide the design of curriculum and assessments. However, more than just standards are needed to promote student achievement.

Promoting higher standards of student achievement cannot be accomplished without first addressing specific questions about the mission of the school, the expectations of the students, the expanded role of the teacher, and restructuring strategies to enhance or increase learning time. A review of the literature shows limited research on (a) using block scheduling or other alternative scheduling practices in elementary schools, (b) whether substantive and perceptual changes have actually taken place due to the implementation of any type of new scheduling pattern, and (c) the extent to which these changes have promoted and/or stifled innovation and creativity in teaching and learning.

In 2002, the Arts Education Partnership (AEP) a national coalition of arts, education, business, philanthropic and government organizations committed to demonstrating and promoting the essential role of arts in the learning and development of every child and in the improvement of America’s schools, published the compendium, *Critical Links: Learning in the*

Arts and Student Academic and Social Development. The focus of the compendium is twofold: a) to identify strong arts education research that would make a contribution to the national debate over such issues as how to enable all students to reach high levels of academic achievement, and b) to improve overall school performance and create the contexts and climates in schools that are most conducive to learning.

Podlozny (2000) studied drama to identify relationships with drama and increased student achievement. She reviewed instructional practices in three dimensions of drama: enactment, plot, and the leader's level of involvement. She created seven meta-analyses that considered nine related hypotheses related to type of plot, role of leader, degree of transfer, amount of drama transfer, age, type of population, study design, publication status and publication date. Her work placed the often-questioned practice of meta-analysis in the arts on much firmer ground and the contribution to the field is unparalleled. She selected 80 studies from among the 200 possible reports identified since 1950. The studies were grouped in categories based on the seven types of recognizable drama outcomes and the comparisons were made between sets of studies in each group rather than across the total set of studies. Her interest was in specific outcome results rather than in 'drama' as a singular field in order to make it easier for drama educators to make connections to specific aspects of their academic instruction. One surprising result was that enacting a text makes a new text more comprehensible. That is interpreted as a demonstration of the power of drama to develop text comprehension skills that transfer to new material. Eight of the nine hypotheses were supported. Positive effects were shown in six areas related to language development: written and oral measures of story recall, reading achievement, oral language development, writing, and reading readiness. The researcher's test for effects on vocabulary revealed a very weak influence. Podlozny reported that drama shows influences not only on children's ability to understand enacted stories but also on their understanding of subsequently experienced read or heard unrelated texts.

For the past five years, the Center on Education Policy (CEP) has conducted a comprehensive study of NCLB. This year's report studied the issue of changes in curriculum and instructional time in greater depth. Specific questions about curriculum and instruction were included in their annual nationally represented survey of 349 responding school districts. District and school level interviews were also conducted in 13 school districts. Their key findings from the study (CEP, 2007) included the following:

1. *Increased time for subjects with mandated tests since 2002.* About 62% of districts reported increased time in English Language Arts (ELA) and/or math in elementary schools with a substantial increase in number of minutes reported. The average increase in minutes per week since 2001-2002 amounted to a 46% increase in ELA, a 37% increase in math, and a 42% increase across the two subjects combined.
2. *Reduced time for other subjects.* To accommodate this increased time, 44% of districts reported, at the elementary level, reducing time from one or more subject areas or activities such as social studies, science, art, music, physical education, lunch, and recess. The total decreases added up to 141 minutes per week across all subjects, on average, or 30 minutes per day. This decrease represents an average reduction of 31% in the total instructional time devoted to these subjects since 2001-2002.
3. *Increases and decreases more prevalent in districts with schools identified for improvement.* Greater proportions of increases for ELA and math instruction were reported from districts with at least one school identified for NCLB improvement than of districts without schools in improvement. Districts with at least one school in improvement also reported more decreased time in social studies, science, art, and music than those without schools in improvement.
4. *Greater emphasis on tested content and skills.* Since 2001-2002, most districts have changed their ELA and math curricula to put greater emphasis on the content and skills covered on their state tests used for NCLB. In elementary reading, 84% of districts report curricular changes “somewhat” or to a “great extent” to put more emphasis on tested content. Similarly in math, 81% of districts reported that they have changed their curriculum at the elementary school to emphasize tested content and skills.

As a result of the restrictions of the federal NCLB mandate, educators and the public have begun to question the negative side effects to such a narrowed curriculum that focuses primarily on English and mathematics. A recent Phi Delta Kappa/Gallup poll (Rose & Gallup, 2006) asked a random sample of the general public, “How much, if at all, are you concerned that relying on English and math only to judge a school’s performance will mean less emphasis on

art, music, history, and other subjects?” Seventy-one percent of respondents indicated that they were concerned either “a great deal” or a “fair amount”.

Given the previous studies cited, unanswered questions remain regarding scheduling changes. One question that emerges is the extent to which scheduling changes have occurred in elementary schools, over the last five years in response to NCLB.

Rationale of the Study

The transition to block scheduling has been primarily a national movement in high schools. It has, however, also gained strong momentum in elementary schools as a palatable restructuring alternative to ability grouping or heterogeneous grouping (Canady & Reina, 1993). The multiple driving forces behind alternative scheduling practices include better organization, political survival, flexibility and accountability. Rethinking the use of time in any school environment involves not just carving up the traditional school day or week into different segments but also reinventing and expanding the traditional units of study themselves. The ultimate goal, then, should be the equalization of instructional time for all student populations in multiple subjects. Canady believes that genuine school reform must begin at the building level with changes in redistribution of staff, space, and time (1990). There is a dearth of current research on the effects of this change to alternative scheduling practices on elementary school outcomes and its overall impact on teaching and learning.

Research Questions

The overall guiding question is: To what extent has scheduling of students, in elementary schools in the Commonwealth of Virginia, changed since the implementation of NCLB?

The following subordinate questions were posed by the interviewer:

1. What are the characteristics of the scheduling practices currently being implemented in elementary schools?
2. How have these practices changed over the last five years?
3. What are the reasons for these changes?

Theoretical Framework

The theoretical framework for this study focuses on factors contributing to the implementation of alternative scheduling practices in the elementary school. Educators all over

the nation strive to educate students by helping them to reach high levels of achievement, become successful productive citizens and engage in lifelong learning. In order to prepare students, educators must carefully structure the learning environment. Researchers have studied schools and classrooms in an effort to identify those characteristics that contribute to successful learning environments. Many years before NCLB, George Weber (1971) conducted a study on four high achieving schools that were successful in meeting the needs of children from low income families causing the students to soar in reading. Two of the schools were in Harlem, one in Missouri, and one in Los Angeles. Larry Lezotte (1979) and Ron Edmonds (1979) built on Weber's research and conducted further studies that ultimately grew into the Effective Schools Movement. Studies conducted by Boyer (1995) and Goodlad (1983) investigated the impact that the principal has on student achievement and school success. Barth (1989) and Goodlad (1984) studied teacher involvement and its impact on student achievement.

Among the variables were allocation of time, quality of instruction, school climate, and class size. The theory of this study is that changes in elementary scheduling practices are associated with the mandates of NCLB. Changes have definitely occurred since NCLB, not just because of NCLB.

Figure 1 represents the researcher's theoretical concept. Graphically, this theory is shown with an arrow leading from a litany of reasons, including NCLB, to the focal point of scheduling practices. The premise is that there are multiple reasons for changes in scheduling practices in elementary schools. This study attempts to identify those reasons.

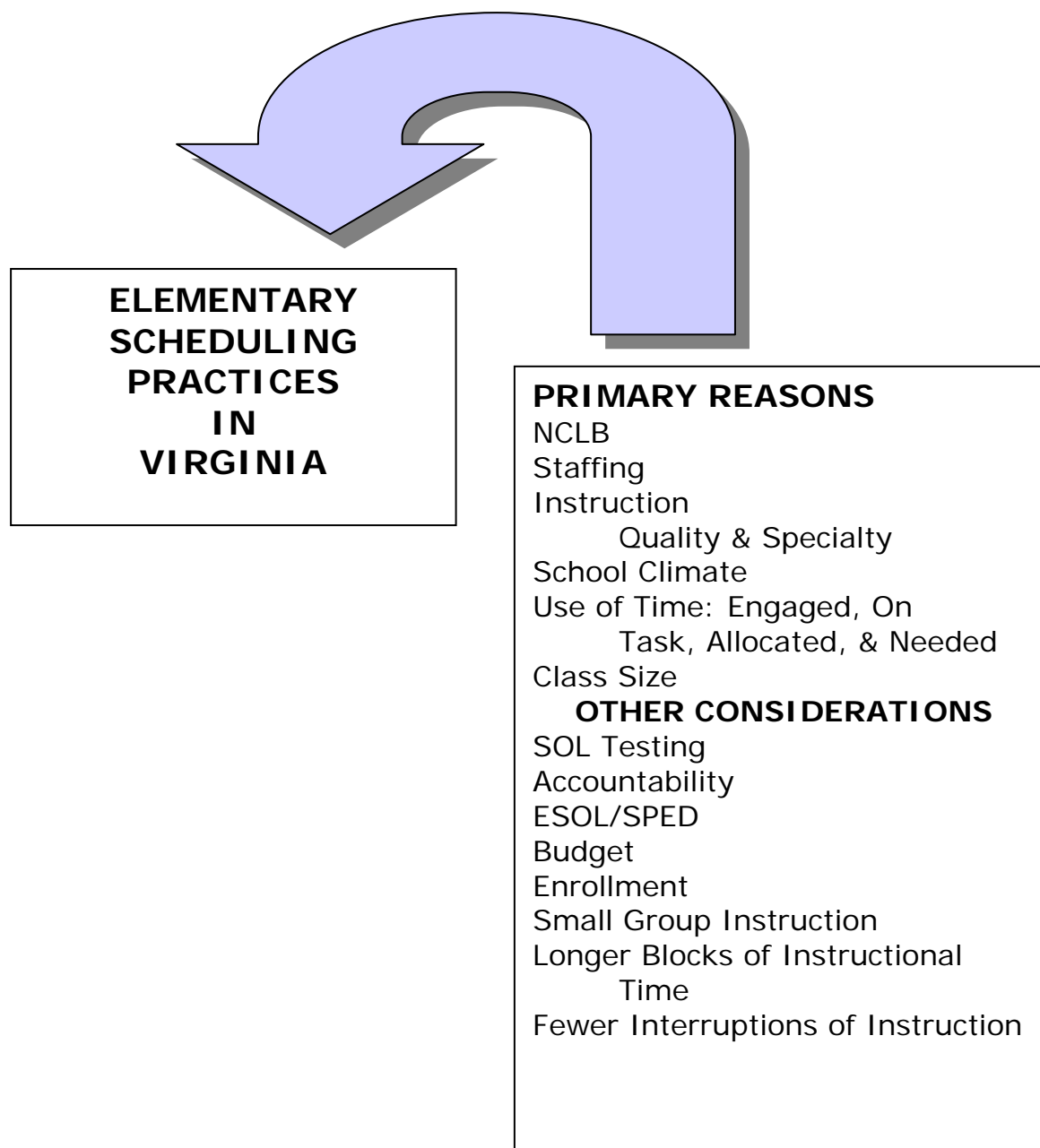


Figure 1. Reasons for changes in elementary scheduling practices since NCLB.

Methodology

A mixed methodology, including a descriptive case study and inferential statistics – hypothesis testing, were used to develop answers to the overall guiding question regarding the relationship between alternative scheduling practices implemented since the enactment of No Child Left Behind (NCLB) and their impact on teaching and learning. The literature review identified a number of domains to be investigated, including: (a) instruction, (b) school climate, (c) use of time, (d) class size, and (e) negative and positive aspects. These domains, as well as other themes that emerged from interviews with principals, became the thesis for this study.

Interviews, observations, and examination of school documents contributed to the data collection and analysis of the case study schools. According to Hamel (1993), and Yin (1994), case studies are the “preferred strategy, when ‘how’ and ‘why’ questions are being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real-life context” (p.1). Yin also described case study as “contributing uniquely to our knowledge of individual organizational, social, and political phenomena” (p.2).

The sample of the qualitative case studies was comprised of three elementary schools in the Commonwealth of Virginia that have implemented a different time allocation model for scheduling that did not exist prior to NCLB. These three schools represented geographically diverse school divisions in the Commonwealth. Elementary administrators from each school were interviewed and the responses to the interview questions helped frame the study.

According to Howell (1995) quantitative research is often an iterative process whereby evidence is evaluated, theories and hypotheses are refined, and technical advances are made. This survey addressed the issues of time in the school environment and the effect it has on teaching and learning. The survey participants for this study represented a census list of urban, suburban, and rural school divisions or clusters identified as utilizing alternative scheduling practices. The census list of elementary schools, grades Pre-Kindergarten through sixth forming the small cluster sample was developed by Dr. Michael Rettig, renowned consultant and author of school scheduling practices. The rationale for selecting this sample population was Dr. Rettig’s first-hand involvement with all of the schools in the sample. He has provided training

and guidance to staff in these schools in implementing the specific changes and creating various instructional delivery models for reallocating time.

Following the completion of the qualitative review of the interview responses and the case study school documents, sample survey questions for validation were developed. The questions reflected a combination of items representing the domains resulting from the review of the literature and information gleaned from the observations and interviews.

Terminology and Definitions

Parallel block scheduling refers to the method of scheduling students in order to reduce class size, increase instructional time, and reduce the effects of pull out programs. The parallel block is used primarily in elementary schools. Parallel block takes a class of students and divides them into two groups. One group of children stays with their classroom teacher for instruction in an academically demanding subject such as math or language arts, while the other group attends physical education, studies music, or visits a computer lab. After a prescribed length of time the two groups swap. This schedule provides all students with a more individual learning experience (Canady, 1990).

Time allocation scheduling refers to the method of allocating uniform and specific blocks of time by grade level, students, or subjects for learning throughout the day. The central components at the elementary level are teacher teams, clusters of students, and time to plan and learn (Canady & Rettig, 1995).

Alternative scheduling refers to all other methods of organizing students among teachers in an elementary school using any of the following components:

1. coordinated schedules for instruction in reading, mathematics, special programs and support services;
2. large blocks of uninterrupted time allocated for teaching and learning;
3. consistent time periods allotted for teaching and learning, daily; and
4. instruction in reading and mathematics is provided in reduced size groups (Conyers, 1987).

Significance

The concept of the typical school day has drastically changed, since the issuance in 1983 of a landmark report, *A Nation at Risk*, which called our attention to the decline of educational achievement and the “rising tide of mediocrity threatening our very future as a nation and as a people” (National Commission on Excellence in Education, 1983, p.5). As a result of this publication, schools undertook massive reform efforts to create responsible and viable learning communities for all children and to provide equity in delivery of services and equal educational opportunities for all children. Yet the allocation of school time has basically remained the same.

In 1991, the National Education Commission on Time and Learning was established to study the relationship between educational time and learning in schools in the United States. There were eight recommendations contained in the final report, *Prisoners of Time* (1994) with the number one recommendation being to reinvent schools around learning, not time. The significance of the utilization of time is expressed in the opening statement of the report: “Learning in America is a prisoner of time” (p. 7). The report also states that the typical school day has six class periods and 5 to 6 hours of classroom time with the day beginning in the early morning and ending in the early afternoon.

Above all else, time governs how material is presented to the students and the opportunity they have to comprehend and master the material. The necessity for education reformers to explore change in terms of time and learning is supported by the Commission’s conclusion that the whole question of how teachers utilize time needs to be seriously and systematically rethought. According to the National Commission of Time and Learning (1994), “We must use time in new, different, and better ways” (p. 30).

The Partnership for 21st Century Skills has developed a vision for 21st century student success in the new global economy. The elements are described as “21st century student outcomes” and are listed as the skills, knowledge and expertise students should master to succeed in work and life in the 21st century. Core subjects include English, reading or language arts, world languages, arts, mathematics, economics, science, geography, history, government and civics. Schools must move beyond a focus on basic competency in core subjects to promoting understanding of academic content at much higher levels by weaving the following

21st century interdisciplinary themes (The Partnership for 21st Century Schools, 2007) into core subjects:

1. Global Awareness,
2. Financial, Economic, Business and Entrepreneurial Literacy,
3. Civic & Health Literacy,
4. Learning & Innovation Skills – Creativity, Critical Thinking, Problem Solving, Communication, and Collaboration,
5. Information, Media and Technology Skills – Information, Media, and ICT – Information, Communications and Technology Literacy, and
6. Life and Career Skills – Flexibility and Adaptability, Initiative and Self-Direction, Social and Cross-Cultural Skills, Productivity and Accountability, Leadership and Responsibility.

Overview

This mixed design study examined alternative scheduling practices and varied time allocation models implemented in elementary schools in the Commonwealth of Virginia over the last five years, which is since the implementation of NCLB. In its 2006 study about the effect of NCLB on school districts, the Center on Education Policy noted evidence of a narrowing curriculum.

According to the study, 71 percent of school districts reported that they have reduced instructional time in at least one subject to make more time for reading and mathematics. In some districts, struggling students receive double periods of reading and math or both...sometimes missing certain subjects altogether. (p.vii)

Of particular interest to this study are the following domains: the specific characteristics of scheduling practices; how schedules have changed over the past five years; the reasons for the change; the impact on instruction; the use of time and the impact on school climate. Despite the concerns of teachers and school administrators, Cawelti (2006) believes that a “stay the course” mentality seems to prevail among Washington officials. The depth of these concerns will become clear as policymakers reconsider the legislation for possible reauthorization in the months ahead.

Education leaders would be wise to prepare to articulate their own plans for restoring balance to the curriculum and eliminating achievement gaps.

Need for Further Investigation of Thesis

This chapter began with summarizing the need to investigate the effects of alternative scheduling practices on elementary school cultures, in light of state mandates and federal legislation. A review of the literature pointed to a paucity of current research on ways elementary schools have changed the structure of the school day to extend learning opportunities. Five areas evolved from the literature: instruction, school climate, planning, use of time and class size. From this review a thesis evolved: Changes in elementary scheduling practices are associated with the implementation of NCLB. The main questions to be answered by this study are the following:

1. What are the alternative scheduling practices?
2. How have these practices changed over the last 5 years?
3. What are the reasons for the changes?

If the thesis is supported, changes in scheduling practices and reasons for those changes will be identified.

Outline of Succeeding Chapters

In Chapter 2, the review of the literature provides context for the study, from national, state, local, historical and school perspectives. Key vocabulary is defined. In Chapter 3, the thesis of the study is restated. The population sample and methods of data collection are identified. The procedures for analysis of both the qualitative and quantitative parts of the study are discussed.

In Chapter 4, the data from the qualitative study, the case studies, are identified and discussed. These data are presented by domains and research questions. In Chapter 5, the data from the quantitative study, the survey, are presented. The data are analyzed for descriptive statistics, reliability scores, and inferential statistics.

In Chapter 6, there is a discussion of the findings from the school study and the survey. Conclusions are drawn and the theory is confirmed. The limitations of the study are discussed

and the implications of the findings and recommendations are suggested. Recommendations for further study are presented.

CHAPTER 2

REVIEW OF RELATED LITERATURE

The review of the literature begins with a brief presentation of the research regarding the nature of time and learning followed by an extensive discussion of context, including the theoretical context, the historical context, the national and state contexts. Following the discussion of context is a review of the research related to specific elementary school schedules. The last section of the chapter includes a review of the literature on salient issues related to scheduling, instructional factors, planning time, school climate, use of time, and class size reduction.

Context

The Nature of Time and Learning

The importance of time allocation is central to the issue of alternative scheduling. Proponents argue that larger blocks of time will encourage teachers to use varied instructional strategies more often, which will, in turn, increase individualization of instruction. While research has not provided any clear evidence to validate this claim, the literature on time and learning has produced a relatively clear picture of the components of time needed to maximize student learning.

According to the Virginia Department of Education, 1992 study entitled *Instructional Time and Student Learning: A Study of the School Calendar and Instructional Time* (1992), increased academic learning time results when each of the following conditions are met:

1. The student is on-task and engaged.
2. The student is experiencing a high degree of success.
3. The time needed by the individual student is equal to the time allocated.
4. The instruction is appropriate to the student's learning style.

The report of the National Education Commission on Time and Learning (1994) entitled *Prisoners of Time*, highlights how the traditional American school is governed by antiquated concepts of time. The report bluntly labeled the Carnegie unit an indicator among many sample evidences of the clock's control of public school classrooms. The Commission (1994) also

specifically promoted the development of team teaching, technology instruction, and utilization of community resources. In an effort to address the deficiencies which had been observed in America's public schools, the report went on to urge the use of multiple strategies, "offering more frequent breaks, providing more opportunities for hands-on learning, encouraging group work – those techniques and others can parole some of the students who today feel most confined by the school's rigid time demands" (p. 31). The report condemns the loss of instructional time in the typical school day in America stating, "Unyielding and relentless, the time available in a uniform six-hour day and a 180-day year is the unacknowledged design flaw in American education" (p. 8).

The Theoretical Context

The practice of scheduling longer blocks of instructional time has been described as setting the stage for an academic environment where teachers feel more effective with reduced class sizes during reading and mathematics instruction. Reduced class size has also been associated positively with student learning (Ornstein, 1995). The theoretical context of this inquiry is based on the work by Canady and Rettig (1995) and Cawelti (1994) on implementing new structural changes into the school climate. Agreeing that instruction in American public schools was caught in the rigid structure of the schedule and characterizing the block schedule as a "catalyst for change" (p. 29), Canady and Rettig (1995) urged educators to consider the power of the schedule on a school's instructional climate and instructional program. While they stated that alteration of a school schedule does not constitute a panacea for the ills of education, they asserted their belief that a new and different schedule can positively impact the instructional program (Canady & Rettig, 1995). Three major points summarized their beliefs on the power of scheduling:

1. A schedule can be viewed as a resource that permits the effective utilization of people, space, and time in an organization.
2. A schedule can help solve problems related to the delivery of instruction or a schedule can be a major source of problems.
3. A schedule can facilitate the institutionalization of desired programs and instructional practices (Canady & Rettig, 1995, p. 29).

In their discussion, Canady and Rettig (1995) recommended parallel block scheduling because it offered teachers an opportunity to work with fewer students in a semester, thereby giving teachers a chance to learn their students better and to develop more student-centered plans.

A national study conducted by Cawelti (1994) offered evidences of restructuring elements that might address instructional weaknesses. Among the criticisms was the predominance of lecture, creating passive learners and ignoring research that revealed the need for active learning strategies (Cawelti, 1994). The study cited the scheduling of instructional teaching and learning blocks of time as a significant innovation in the organization of schools and a response to the need for substantive change. His findings indicated that 11% of the schools organized the instructional day in a block schedule. At the time of the report, an additional 15% of the schools planned to move to a block schedule the following year. In his brief discussion of the block schedule, Cawelti (1994) stated that the block's major value was "to enable teachers to use a variety of teaching activities in these extended periods, and to greatly reduce the number of students seen by teachers in their classes each day" (p. 23). Change is complicated and further research is needed to explore whether smaller class sizes in traditional scheduling produce with the same results as block scheduling or whether the combination of smaller classes, instructional techniques, more time and effective use of time produce better results.

An Historical Context

A Nation at Risk (National Commission on Excellence in Education, 1983), called for a national reform of America's schools, colleges, and universities. However, well-intentioned, reform appeared too slow to address the serious needs of American schools (Lewis, 1989).

In 1989, the nation's governors adopted six National Education Goals, which were incorporated into the Goals 2000: Educate America Act. The Goals 2000 legislation, which became law in March of 1994, ultimately defined eight goals. The legislation's primary goals were to encourage local community-based actions to meet pressing educational needs, help more students achieve higher standards, improve teaching and learning, and increase parent participation. The Act provided flexibility in how states and communities were to develop and implement grass roots reform. Each state, school district, and school was to determine the

content students were to learn and whether or not to proceed with the implementation of standards (Goals 2000: Educate America Act, 1994).

Late in the 1980s, legislators and educators began to discuss more substantive change fueled by a process labeled restructuring. In an American Association of Secondary Administrators publication, *Restructuring American Schools* (1989), Lewis consolidated definitions of restructuring from leading educational scholars. She concluded that while restructuring is a concept that remained in flux, she was able to identify the characteristics of the basic elements of restructuring as:

1. Changing the way students learn and teachers teach, requiring both to assure greater initiative;
2. Being student and teacher centered;
3. Applying to all schools and all students, not just the disadvantaged;
4. Affecting curriculum as well as organization;
5. Needing a central vision within a school to which all subscribe;
6. Becoming unstuck from many current reforms and from a built-up centralized bureaucracy; and
7. Being advocated by diverse interests in society (p. 6).

Among the tools for restructuring which Lewis (1989) suggested were instructional strategies, curriculum revision, and new evaluation techniques. Related to those findings, Donahoe (1993) defined restructuring as,

The formal rearrangement of the use of time in school is to allow them to create and sustain the kind of active cultures and supporting infrastructure they need to improve student learning – to bring about the creation of truly new American schools. (p. 305)

In 1992, the Virginia Department of Education issued a report, *Instructional Time and Student Learning: A Study of the School Calendar and Instructional Time*, listing options for increasing instructional time, which included: (a) lengthening the school day, (b) lengthening the school year, (c) increasing the amount of homework, and (d) increasing time allocated to certain subjects.

A National Context

In 2002, NCLB was passed as the keystone of President George W. Bush's domestic agenda. The aim of the law is to have all students at grade level in math and reading by 2014. Klein, a reporter for the *Washington Post*, wrote that many teachers and administrators complain that NCLB is unrealistic and underfunded. It puts too much emphasis on testing and unjustifiably punishes schools that can't meet the goal. Schools are required to look at all subgroups including Black, Hispanic, English Language Learners, and students with disabilities. If any one group is not making adequate academic progress, the entire school is considered "in need of improvement" (Klein, 2007). Parents and teachers often interpret that as failing. Many principals and teachers have concluded that high-stakes testing is doing grave damage to education and to the lives of children. Educators and parents understand that assessment is necessary and a valuable part of teaching and they do not object to accountability. But they oppose accountability that is reduced to test scores and punishment and the too narrow focus on testing (Noddings, 2005).

For five years, the NCLB Act, which was part of the most recent reauthorization of the Elementary and Secondary Education Act (ESEA) has been the major school reform agenda in America. Reauthorization of ESEA will soon occur and the future is uncertain. It has been suggested that NCLB should be expanded to include more interventions or more required national standards. But more is not the solution. It is time to change direction (Houston, 2007).

In its Legislative Agenda, the Association for Curriculum Development (ASCD) supports approaches to instruction and assessment that encourage a shift from teachers covering content to students mastering concepts. A focus on how a learner demonstrates knowledge through self-assessment, reciprocal teaching, student-led conferences, and other student-centered approaches should replace the selected-response format assessments and didactic instruction. The Virginia ASCD believes that the goal of leaving no child behind can only be met if all learners are engaged in the learning experience. Research on the brain and learning indicates that an engaged student has increased recall and retention of content. (Virginia ASCD Legislative Positions, 2006).

A State Context

The State of Virginia mandates a five and one-half hour school day and 180 instructional days per school year (Standards of Accreditation, 1992). Recent changes in the organization of the elementary school day to accommodate alternative scheduling have included lengthening the day to often 6-or 7-hour days, in order to create structured, prescribed, and equal blocks of learning time throughout the school day.

Prior to 1985, The Virginia Department of Education published a document entitled *A Good Day at School* which recommended to elementary schools in the Commonwealth a prescribed amount of instructional time for each discipline taught during the school day. James Firebaugh, the current Director of Middle and High School Instruction at the Virginia Department of Education, explained that *A Good Day at School* was not a regulatory document but was typically used as a guide for information on the wise use of time in public schools for a number of years; however, this document has been out of print for over twenty years. Currently, the *Regulations Establishing Standards for Accrediting Public Schools in Virginia* specifies elementary instructional time as the following:

A minimum of 75% of the annual instructional time of 990 hours shall be given to instruction in the disciplines of English, mathematics, science, and history/social science. Students who are not successfully progressing in early reading proficiency and/or who are unable to read materials necessary for instruction with comprehension shall receive additional instructional time in reading. (p.10)

A School Context

Proponents of alternative scheduling (Canady & Rettig, 1995; Carroll, 1994; Cawelti, 1994) suggest that what is needed is the creation of school environments, which will adequately prepare students for a new century, and a revision of our traditional ideas about the school day, week, and possibly the school year. They further suggest that to teach a strong, comprehensive curriculum to all students requires a core block of instructional time. To help all students reach rigorous annual benchmarks, tremendous flexibility is needed. To create true lifelong learners, it is necessary to erase the notion that learning is specifically limited to a 6-hour day, a 5-day week, or a 180-day agrarian year (Canady & Rettig, 1995; Carroll, 1994; Cawelti, 1994). Learning is a

continuous, unbroken path that extends through life and all children are deserving of equalized and maximized opportunities.

The Traditional Elementary Schedule

The traditional elementary schedule breaks the day into small segments of time in which every subject is addressed daily, but often the time segments are interrupted when students participate in special classes such as music, library, or art. In addition, the classroom teachers' schedules may be disrupted when individual or small groups of students leave for special services, such as Title 1 programs, special education, or gifted programs.

The elementary teacher in a traditional self-contained classroom historically has great flexibility and autonomy to make decisions about teaching and learning. The responsibility for teaching all core subjects as well as the social sciences, physical education, art, and music is implied and assumed. The advent of specialists who teach specific subjects relieves them of some of those duties.

Carroll (1994) espouses that under a traditional schedule, "teachers cannot deal meaningfully with every student every day - nothing is wrong with the traditional schedule except that it prevents teachers from teaching well and students from learning well" (p. 27). According to Schroth (1997), traditional elementary scheduling creates administrative problems for principals, including: (a) teachers resent interruptions for special classes; (b) teachers have strong preferences about the time and day when art, music, physical education, computer laboratory, planning and library are to be scheduled; (c) special programs such as Title 1, remedial reading and special education and related services can disrupt the continuity of classroom instruction; and (d) young students need more physical activity and schedules must be coordinated in order to avoid crowding the playgrounds.

The Alternative Schedule

Flexible scheduling in the elementary school is not a new concept. Inspired by the reform movement in the 1990s that focused on the child-centered and learning-centered environment, elementary educators have been searching for methods to enhance student learning. The reallocation of time is among the innovations attracting attention. The basic premise is that by partitioning the school day into longer time periods and providing teachers more flexibility in

how they use time, elementary school faculties can create a framework that favors the needs of the learners rather than the needs of the school organization (Canady, 1996). Young children need time to develop student-student and teacher-student relationships; time for play; time for a variety of activities, with varied durations; time for physical involvement with the learning; and time to make connections between the subject matter and their own world. These needs occur in unpredictable order, and the time requirements to meet them vary from day to day and even hour to hour (Schroth, 1997).

Alternative Scheduling Blocks

Why all the elaboration now about alternative scheduling blocks? The answer, according to Shortt and Thayer (1997), Carroll (1994), and Canady (1991), rests in the confines of tradition as well as how standards are now being used to define what instruction should be in America's schools.

For block scheduling proponents including Canady and Cawelti, the essence of the matter is the relationship between time and learning. Parallel block scheduling is a method of scheduling students to reduce class size, increase instructional time, and reduce the effects of pull out programs (Canady, 1991). Scheduling longer blocks of instructional time will facilitate the improvement of instruction through the use of varied instructional strategies which fit the student learning styles better than the traditional lecture and teacher-directed styles prevalent in today's classrooms (Cawelti, 1994).

Alternative Scheduling in Elementary Schools

Due to a dearth of data on this topic, the literature on block scheduling poses many issues for elementary scheduling. The research has been limited to five primary factors related to elementary scheduling, which fall primarily under the headings of instruction, school climate, planning, use of time, and class size. The literature review is organized around these components and reports purported advantages and disadvantages in these areas.

Instructional Factors

Canady and Rettig (1993), in one of the first nationally published articles advocating block scheduling, listed facilitating variety in instructional strategies as one of the first stated

benefits of block scheduling. The authors stated that teachers at schools with block scheduling might use longer instructional periods to engage students in experiments, writing, and other forms of active learning, as opposed to merely lecturing students.

A number of authors have identified four common characteristics of block scheduling: (a) teachers encounter fewer students per day and have longer preparation periods (Canady & Rettig, 1995; Jones, 1995), (b) instructional techniques can vary widely and include interdisciplinary approaches with teachers moving away from lecture methods (Canady & Rettig, 1995), (c) teachers can develop closer relationships with their students with the extended time spent in class each day (Canady & Rettig, 1995), and (d) longer lunch blocks and preparation periods can be used for meeting and planning time (Schoenstein, 1995).

Regarding instruction, Goodlad (1984) stated the following:

By finding more efficient ways to handle routines and learning to manage the classroom with a minimum of time lost to social activity and controlling students' behavior, teachers increase the amount of time spent on learning and presumably, enhance achievement. It is reasonable to assume, in light of research, that the gains in achievement will be greatest if the students are actively involved and stay involved in learning when instructional time is increased. (p. 101)

Slavin, et al. (1989) stated the following:

Consistently effective classroom programs accommodate instruction to individual needs while maximizing direct instruction and these programs frequently assess student progress through a structured hierarchy of skills. (p. 45)

In addition, Goodlad (1984) said that direct instructional time is increased by grouping the students homogeneously for reading and mathematics with the scheduling being rooted in concerns about creating sufficient time to immerse students in the learning experience. Block scheduling at the elementary level is about teacher teams, clusters of students, and time to plan and learn.

Another benefit of flexible scheduling, according to proponents like Canady (1995), Carroll (1994), and Cawelti (1994), is that longer blocks of instructional time can lead to increased individualized instruction. These authors believe that in longer time blocks, students

can learn at their own pace. Advanced students can achieve at an accelerated rate while not penalizing students who require a slower pace. Canady states that one of the major goals of schedule reform is to allow students variable amounts of time for learning “without punishing those who need more or less time to learn” (p. 12).

Carlisle (1988) investigated the impact of parallel block scheduling on classroom instructional time and scores of elementary students in language arts and mathematics. A quasi-experimental non-equivalent control group design was used. An assigned pilot school and a control school were matched based on size, standardized test scores, socioeconomic levels. All students in grades 2, 4, and 5 were the subjects for the study. A pre- and post-test assessment was used to measure achievement and growth of the students. An analysis of covariance (ANCOVA) was used to determine the effect between parallel block scheduled schools and traditionally scheduled schools with regard to language, mathematics and reading achievement was an analysis of covariance. Carlisle (1988) concluded that there were no significant differences in the vocabulary, word recognition, total reading, and math computation scores of children in parallel scheduling as compared to children in regular or traditional scheduled schools. No relationship could be established between parallel block scheduling and classroom instructional time, the size of groups, or the direct interaction with teachers.

Schroth (1997) contends that the real issue is education quality. Teachers need time to develop effective lesson plans, assess students, and discuss the results with students individually. They need time to read professional journals, interact with colleagues, and watch outstanding teachers demonstrate new practices.

Planning Time Factors

Bingham, Harman, and Embree (1997) conducted a formative evaluation in North Carolina on time scheduled for collegial planning and shared common planning time. Citing problems of fragmented instructional time and lack of team planning opportunities, teachers and administrators in a small district in central North Carolina restructured their elementary school schedule. The result, termed “Block Planning Time,” was created by scheduling specialists for equal periods of instruction on a rotating schedule one day per week during the same time block. Organized into three classes at each grade, students experienced varying sequences of physical education, art, music, and library for 30 minutes each, providing a total of 90 minutes shared

planning time for all three classroom teachers at grade level. Initially, the principals routinely met with the grade levels to share information on curricular issues and to assist with the implementation of instructional planning periods. As the team gained experience with block planning periods of time, the principal decreased the number of visits to the classrooms and visits with the teachers.

Moreover, in order to make informed decisions related to Block Planning Time, school administrators conducted a formative evaluation midway through the first year. After six months, of Block Planning time, the data collection resulted from five elementary school sites using a survey instrument cooperatively designed and field tested by the staff and the evaluators. The survey, with a response rate of 75%, focused on (a) building collegiality, (b) reducing fragmentation of the school day, and (c) impacting students and instructional practices. Closed-ended questions were tabulated and open-ended questions were content analyzed. More than 80% of the responding teachers “agreed” or “strongly agreed” with closed-ended statements describing an increase in collegial behavior since implementation of common planning time. Analysis of open-ended responses resulted in the following similar findings: more than 80% “agreed” or “strongly agreed” that the schedule reduced fragmentation; however, less than half felt the planning times were uniformly long and adequate. Open-ended responses suggested time modifications. Responses on the impact on students and instruction indicated that instructional practices were discussed during planning, grade level activities were more coordinated and innovative ideas were implemented as a result of Block Planning Time. Overall, the Bingham study illustrated that by implementing a Block Planning Time the goals of increasing collegiality, reducing fragmentation of the school day, and impacting students and instruction resulted. Concerns expressed by teachers were the lack of opportunity to meet with special class teachers and the need for more planning time.

School Climate Factors

Many researchers claim that scheduling longer blocks of instructional time affects school climate. School climate has been defined as the psychological ‘feel’ that students and teachers have for the school (Sergiovanni & Starratt, 1993). School climate, in the block scheduling literature is more often described as an outcome measure along with subjective measures such as discipline and student teacher relationships.

With varying degrees of success, data seem to indicate that these scheduling methods have produced measurable successes in regard to: (a) reduction in fragmentation of the school day, (b) reducing the stigmatization of students by blending support programs and services, (c) more effective use of instructional staff, (d) significantly higher student engagement rates, (e) increases in attendance rates, test scores, and students' self-esteem, and (f) decreases in discipline problems and special education referrals (Carroll, 1994; Center for Applied Research and Educational Improvement, 1995; and Guskey & Kifer, 1994).

There are, however, critics that claim that structural changes, in and of themselves, will not lead to improved student performance. Elmore (1995) concluded "that the relationship between structural changes in schools and changes in teaching and learning are mediated by relatively powerful factors, such as shared norms, knowledge, and skills of teachers" (p. 26).

Use of Time Factors

Many well-known researchers and authors have focused on time and its use in the educational setting. Goodlad (1984) writing in *A Place Called School*, said that "Some [schools] seem almost unaware that time is virtually the most precious learning resource they have at their disposal" (p. 30). The key to the block schedule, in whatever form it takes, seems to be the allocation of longer blocks of time for instruction.

One study of elementary time use, the Beginning Teacher Evaluation Study (BTES) suggested that of the typical six-hour school day, two hours were scheduled for lunch, recess, breaks, and non-instructional activities (Karweit, 1989). Of the four hours scheduled for instruction, three were typically scheduled for academic activities, whereas the remaining hour was used for art, music, and physical education. The major findings of the BTES study were: (a) The amount of time that teachers allocate to instruction in a particular content area was positively associated with student learning in that content area; (b) The proportion of allocated time that students were engaged was positively associated with learning; and (c) The proportion of time that reading or mathematics tasks were performed with high success was positively associated with student learning.

Karweit (1989) summarized the results of several studies of time on task and achievement and found inconsistent effects of time variables on achievement. She indicated there was little evidence to suggest that increasing time for learning in and of itself would be an

effective educational strategy. She proposed that quality of instruction must be considered. Time needed and time spent must also be taken into account. Schools need flexibility in the use of time to meet student needs. Larger blocks of time allow for more opportunities to employ varied and interactive teaching methods in a more productive and flexible classroom. Other benefits listed by Sturgis (1995) include: (a) decreased class size, (b) efficient use of time, and (c) the ability of teachers to use more process-oriented strategies.

Mattox (2001) conducted an ex post facto study using archival test data to answer the research question: What are the relationships of varying periods of time among elementary schools using the block scheduling model and the academic achievement of sixth grade students in reading and mathematics? The independent variable in the study was the school schedule (traditional or block scheduling model). The dependent variables were students' academic growth in reading and mathematics as measured by test scores on North Carolina's End-of-Grade Tests from 1996-2000.

Independent group t-tests were used to test for significant differences in the mean growth scores in both reading and mathematics between the traditional and the block scheduled schools for three years after implementing the organizational change at the sixth grade level in five elementary schools. The researcher's findings indicated that sixth grade students who received mathematical instruction in a flexible block model had statistically significant achievement differences at the 0.01 levels, when compared to traditionally scheduled sixth grade math students. Conversely, sixth grade students who experienced a change from traditional scheduling to block scheduling in reading did not obtain a statistically significant result (at the 0.01 level of significance) at four of the five elementary schools. One of the five schools did not show statistical significance for the second and third year of block scheduling.

Proponents of elementary block scheduling methods emphasize this scheduling method as a way to improve student-teacher relationships as a result of teachers taking advantage of the longer blocks of time to individualize instruction. Cawelti (1994) states, "Block scheduling helps teachers develop closer relationships with students" (p. 36).

In a study conducted by Wyne and Stuck (1979), elementary school students identified as being a year or more behind in reading achievement and who were observed as spending low percentages of time-on-task were selected for participation in a short term program designed to increase task oriented behavior. Following the intervention, participating students were found to

spend significantly more time-on-task and to achieve at a significantly higher level in reading than the control group. These advantages in reading achievement performance were maintained over a period of four months after their return to regular classrooms on a full-time basis.

Edwards (1995) sums up the impact of the move to block scheduling: “This is simply a better, more efficient use of teacher time and student time ...” (p. 88).

Class Size Reduction Factors

“Given the complex nature of student achievement, the search for a magic fix has so far been unsuccessful. But after more than twenty years of small class size projects and research, Class Size Reduction (CSR) appears to offer a giant step in the right direction.” (Biddle & Berliner, 2002, p. 18)

Robinson (1990) listed the following conclusions from research on the effects of class size:

1. The most positive effects of small classes on pupil learning occurred in grades K-3 in reading and mathematics, particularly in classes of 22 or fewer students, although the first year’s positive effects may not be sustained in subsequent years;
2. Studies examining student attitudes and behavior found the most favorable effects of smaller classes in the primary grades;
3. Smaller classes can positively affect the academic achievement of economically disadvantaged and ethnic minority students;
4. Within the mid-range of 23-30 students, class size had little impact on the academic achievement of most students in most subjects above the primary grades;
5. The positive effects of class size on student achievement decreased as grade levels increase;
6. Little if any increase in student achievement can be expected from reducing class size if teachers continue to use the same instructional methods and procedures in the smaller classes that they used in the larger classes; and
7. Reductions in class size had small positive effects on achievement in comparison to many less costly learning interventions and strategies.

Slavin (1990) reviewed research on class size and achievement and concluded that smaller classes did have more positive effects than large ones, but the effects were small to moderate in size.

The Class Size Reduction Program was enacted as a part of the 1999 Department of Education Appropriations Act. In that bipartisan legislation, Congress made a \$1.2 billion down payment on President Clinton's proposal to help local communities hire 100,000 qualified teachers over seven years, in order to reduce class size to a national average of 18 students in grades one through three. Program funds were distributed to all 50 states, the District of Columbia and Puerto Rico. The program targets funds for high-poverty communities because needs are greatest in the poorest communities and research shows that smaller classes provide the greatest benefits to disadvantaged and minority students. Class size reduction in the early grades leads to higher student achievement in reading and math when class size is reduced to 15-20 students (*Department of Education Report on Reducing Class Size: What Do We Know*, 1999).

Teachers involved in Tennessee's Student Teacher Achievement Ratio (STAR) project reported that: (a) smaller classes increased their ability to monitor student behavior and learning; (b) immediate and more individualized re-teaching occurred; (c) more enrichment was offered; (d) a better match was achieved between their instruction and each child's ability; (e) more detailed knowledge of each child's needs as a learner was gained; and (f) a variety of instructional approaches to meet all learners' needs were utilized (Achilles, 1997).

Several new analyses of the Tennessee Class Size Reduction program show that reducing class size has both immediate and long-term benefits. The benefits of participating in small classes increase from year to year, both in the early grades when classes are small, and in subsequent years when students are placed in larger classes. At the end of fifth grade, students who were in small classes in grades one through three were about half a school year (5 months) ahead of students from larger classes, in all subjects – reading, language arts, math and science.

After examining data from class size reduction studies conducted from 1997 to 2001, in 21 states, researchers Biddle and Berliner (2002) concluded, "If citizens are truly committed to providing a quality public education and a level playing field for all students regardless of background, they will find the funds needed to reduce class size" (p. 23).

Conclusion

The literature discussed in this chapter indicates that the vast majority of school schedule changes have been studied in a high school context. Studies of elements of school restructuring (instruction, planning, school climate, use of time and class size reduction) are important issues related to alternative scheduling practices in elementary schools.

There is little wonder that reforms are focusing on time. As schools across the country struggle to meet the demands of the federal No Child Left Behind Act and their state accountability systems, educators are searching for ways to raise student achievement. Students spend about a third of their waking hours at school and two-thirds away from school and, along with money, according to Berliner (1990), time is perhaps the most readily measured and easily understood resource in schools.

The logic of time reform is simple – more time in school should result in more learning and better student performance. But this seemingly straightforward calculation is more complex than it appears. Research reveals a complicated relationship between time and learning and suggests that improving the quality of instruction is at least as important as increasing the quantity of time spent in school for instruction. Research also suggests that the addition of high quality teaching time is of particular benefit to certain groups of students who have little opportunity for learning outside of school.

It is also clear in the research that any alternative scheduling practices proposing to extend time must focus on providing the right kind of time rather than merely adding minutes or hours. The Beginning Teacher Evaluation Study, a federally commissioned education study of teacher behaviors and competencies, was carried out in three phases in the 1970s. The study found that student achievement was most highly associated with instruction that engaged students and was aligned with their abilities and preparedness.

CHAPTER 3

METHODOLOGY

The research design for this inquiry is a mixed methodology using a descriptive case study and hypothesis testing of survey data using chi-square analysis. The inferential statistics were used to develop answers to the overall guiding and subordinate questions. Both the qualitative and quantitative procedures for collecting and analyzing data are discussed in this chapter.

Purpose of the Study

The purpose of this study is to research the changes in scheduling practices in elementary schools in the Commonwealth of Virginia. The thesis of this study is the changes in scheduling practices implemented in elementary schools over the past five years are associated with the passing of the No Child Left Behind Act and have had some impact on the following: (a) instruction, (b) planning, (c) school climate, (d) use of time and (e) class size. Through interviews, observations, and examination of school documents, the characteristics of and reasons for alternative schedules were examined.

Based on the domains found in the literature, key questions surfaced that framed the groundwork and thus became the thesis for the study. The overall guiding question is: To what extent has scheduling of students in elementary schools in the Commonwealth of Virginia changed since the implementation of No Child Left Behind?

The following subordinate questions guided my thinking during the research:

1. What are the characteristics of the scheduling practices currently being implemented in elementary schools?
2. How have these practices changed over the last five years?
3. What are the reasons for these changes?

These questions were addressed by means of a combined qualitative and quantitative study of the topic with emphasis placed on the analysis of the qualitative studies. Case study research (qualitative approach) was used to thoroughly scrutinize the emergence and use of alternative scheduling practices in selected elementary schools in the Commonwealth of Virginia since the implementation of NCLB. As part of the triangulation, interviews were scheduled with

a total of three elementary principals representing suburban, urban and rural school districts in the Commonwealth. These qualitative data will be analyzed and used in the subsequent quantitative analysis.

Significance of the Study

The review of the literature focused on the phenomena of the moment – alternative scheduling practices in elementary school and specific allocation of time for academics. This study of methods (alternative scheduling practices) is particularly important because of: (a) the requirements of No Child Left Behind; (b) the call for curriculum reform that benefits all students; (c) the establishment of the ASCD Commission on the Whole Child to identify ways to close the achievement gap; and (d) recommendations by the CEP in their series *From the Capital to the Classroom: Year 5 of the No Child Left Behind Act*. It is the goal of this study to provide elementary principals concrete data on specific scheduling practices and patterns and to what degree, they may or may not contribute appreciably to student academic success and overall well-being.

Design and Rationale

The research design for this study is a mixed methodology using both qualitative and quantitative research enhanced with descriptive and inferential statistics. According to Merriam (2001), qualitative case studies can be characterized as particularistic, descriptive, and heuristic”. Focusing on a particular situation, event, program, or phenomenon makes it particularistic. Using this definition, the study will focus on alternative scheduling practices in selected elementary schools. Accordingly, “descriptive means that the end product of a case study is a rich, ‘thick’ description of the phenomenon under study” (p. 29). Observations, interviews, surveys and other document reviews provide the rich description in this study. The case study heuristic characteristic implies that the reader will gain an understanding of the phenomenon under study. The data evaluate and explain the findings discovered during the study in order to draw conclusions.

Population and Sample

The qualitative study consists of three components: (a) visiting three elementary schools representing suburban, urban and rural school districts in the Commonwealth and interviewing

the principals; (b) spending time in the case study schools conducting observations of the buildings and grounds; and (c) reviewing documents of each case study school. Survey methodology complements the qualitative study with information gathered from a census of principals of elementary schools in the Commonwealth of Virginia employing alternative scheduling practices. The analyses of the survey data will determine the extent to which conclusions from the case studies can be generalized to a larger segment of schools within the Commonwealth of Virginia. The population of both studies is derived from a census list of elementary schools and elementary school principals in the Commonwealth of Virginia. Those schools have implemented alternative scheduling practices and patterns since the infusion of the No Child Left Behind Act in 2002.

Qualitative Study

Criteria for Case Study Selection

As indicated above, the population was identified using a census list of elementary schools (kindergarten through sixth grade) in the Commonwealth of Virginia. The sample is comprised of those schools implementing alternative scheduling practices and patterns since the infusion of the No Child Left Behind Act (NCLB) in 2002.

Procedure for Selection of the Sample

The schools selected for the sample are three elementary schools that have implemented a different instructional time allocation model that did not exist in the school prior to 2002. A request was made to visit one school in three geographically disbursed school divisions in the Commonwealth of Virginia to interview principals, observe classrooms and tour the building and grounds.

Data Collection

After determining the study schools, principals were contacted and asked to participate. Once the sample had been recruited and consent forms signed, data collection began. Data collection included interviews, observations, review of the documents, and surveys (see Appendices A and B for approval and consent).

Interviews

Merriam (2001) states that the type of an interview determines the type of questions used. She identified three types: highly structured, semi structured, and unstructured. It is not uncommon to use all three in most studies. Merriam (2001) advised on making a guide, which is a list of questions to be used in the interview. All three types of questions will be used and the interview questions will be based on the five domains derived from the literature review (see Appendices C and D for the interview protocols).

Gall, Gall & Borg (2006) indicated that in order to have an effective interviewer-respondent relationship, the background experience of the interviewer is critical. This researcher's background as an elementary teacher may add strength to the study. Due to these experiences, this researcher will be able to understand the impact of the mandates, the pressure to raise test scores, the instructional approaches used by teachers, and what has happened to curriculum and instructional time since the enactment of NCLB. She brings 32 years of elementary experience as a teacher, principal, and associate superintendent working with other elementary teachers, students, parents, and other principals within both urban and suburban school districts. She also has knowledge of a principal's leadership roles and responsibilities and a clear understanding of how elementary teachers collaborate within and between grade levels and the expectations of the students. Moreover, in 2001, this researcher was instrumental in leading an elementary school through the transition from a traditional schedule to an alternative scheduling model.

Gall (2006) also pointed out that an effective interviewer-respondent relationship requires an understanding of the participants' language and culture in order to understand the phenomenon being investigated. Being able to interpret the nonverbal communication as well as facial expressions will help provide insight to the investigation of real life occurrences inserted and encountered in the school community.

Yin (1994) suggested that the researcher conducting case studies should be "able to ask good questions; be a good listener; be adaptive and flexible; have a firm grasp of the issues being studied; and be unbiased by preconceived notions" (p. 56). All interviews were conducted one-on-one and audio-taped. All were concluded with the following questions:

1. What else would you like me to know about the success of your alternative scheduling practices?
2. Is there anything else I need to know about your school and the process of restructuring time?

According to Berg (1989), the researcher should develop a written guide and sequencing of questions and have others examine them to facilitate the identification of poorly worded questions, questions with offensive or emotion laden wording, or questions revealing the researcher's own biases or personal values. He believes that practice interviews will allow the interviewer to assess effectiveness at conducting interviews and whether or not the information sought will actually be attained.

Prior to conducting interviews, the interview questions were pre-tested through a pilot interview with an elementary school principal in my school district to determine if the questions were appropriate and to provide me with practice using the recording devices. This was very valuable in the following ways: (a) fine tuning interview techniques; (b) coordinating use of the equipment with note-taking; (c) controlling for bias by not interjecting personal feelings. After each session, the interview was downloaded from the digital recorder and saved on a Rewritable Compact Disc (CD). The interviews were then transcribed from the CD within 48 hours. This process provided better insight to the interview data. Merriam (2001) stated that verbatim transcriptions were the best database for analysis. After each interview was transcribed, the interviewee was emailed a copy for comment and correction. Follow up telephone calls were made when necessary. There were no recommended changes or additions reported by any of the interviewees, (see Appendix E for the interview checklist).

Observations

Observations, lasting approximately 45 to 60 minutes, were conducted at each school site following the interview with the principal. This included observations of the following: building, grounds, hallways, offices, classrooms, regular and special education classes, learning centers, learning cottages, labs, cafeteria, clinic, staff meeting areas, and specialists to include ELL, Title I classes, art, music, physical education classes. Also included were observations in the teachers' lounge and workroom, counselor's office, library and the playground. Field notes recorded observational data and included the physical setting, the participants in the setting, the activities

taking place, and the conversation taking place. As an observer only, my role was to only ask appropriate questions when questioning did not interfere with instruction. Frequent note-taking occurred during the observation, whenever feasible. Other observations were added into the field notes as soon as possible after the observation concluded and were transcribed in the same manner as the interview. These notes were analyzed along with digital pictures of the building and grounds with deliberate care to not include student faces in the photographs. The majority of the photographs were of vacant classrooms and instructional spaces, along with bulletin boards, and student work displayed throughout the building. An observation protocol and an observation checklist were developed to provide a guide for each of these components of the study (see Appendix for the protocol and Appendix G for the checklist).

Review of Documents

A document guide was developed, as in the interviews and observations, to focus the review. Documents examined included the following: current and prior master schedules for all teachers and specialists, school handbook; school newsletters and parent communication, classroom newsletters, lesson plans, the alternative schedule for intervention and enrichment, and the school webpage. Additionally, since the tenure for each principal, at their respective schools, was less than the five year period that the study was actually addressing, each principal provided the researcher with actual schedules from those previous years.

Merriam (1998) suggested that documents can contain irrelevant information to the study; by the same token, they often contain clues and even startling insights into the phenomenon under study (p.119). This documentation should provide the necessary information to glean a better understanding of past and current scheduling practices. A documentation protocol were developed and to be followed while examining a variety of documents (see Appendices H and I for the guidelines).

Validity

Eisner (1991) discusses the credibility of qualitative research by stating, “We see a confluence of evidence that breeds interpretations and conclusions” (p.110). His point is further illustrated with an analogy drawn from detective work; the researcher compiles bits and pieces of evidence to formulate a “compelling whole”. The researcher is looking for recurring behaviors or

actions and considers contrary evidence and interpretations. Maykut and Morehouse (1994) call this trustworthiness that can provide answers to two questions: “To what extent can we place confidence in the outcomes of the study? Do we believe what the researcher has reported” (p. 145)? Validity and reliability procedures and methods will be developed to ensure internal and external validity.

Internal validity. Internal validity, according to Merriam and Associates (2002) is considered the strength of qualitative research because the researchers are ‘closer’ to reality as they serve as the primary instruments for data collection and analysis.

In this study, the following procedures were utilized to assure internal validity:

1. Member checks. Transcriptions were sent to the interviewees for corrections and additions (Maykut & Morehouse, 1994).
2. Peer review or debriefing. Two experienced colleagues – elementary principals – were asked to conduct peer examination of the findings as they emerged and make appropriate comments; ask hard questions about methods, meanings, and interpretations (Merriam, 2001).
3. Triangulation. The researcher made use of multiple and different sources, methods, investigators, and theories to provide corroborating evidence (Merriam, 2001). This process involved corroborating evidence from interviews, observations, review of the documents, and the survey.

External validity. External validity assesses whether or not the findings, interpretations, and conclusions are supported by the data (Merriam, 2001). This was accomplished through the triangulation among different data sources, the use of rich and detailed description, member checking, and the survey, as part of the case study, helped ensure the external validity.

Reliability

Merriam defines reliability is the extent to which the research findings can be replicated. Moreover, the connection between reliability and internal validity rests on the assumption that a study is more valid if “repeated observations in the same study or replications of the entire study have produced the same results” (p. 205). Research files containing memos, notes, research

design, data collected, themes and categories derived and decisions will provide the audit trail (Maykut & Morehouse, 1995).

Case Study Analysis

“Data collection and analysis is a simultaneous activity in qualitative research. Analysis begins with the first interview, the first observation, and the document read” (Merriam, p. 151). Interactions with participants and data triangulation provide clearer interpretations and a rich, thick, description for the reader. According to Merriam (2001) the meanings that arise from the analysis constitute the findings of the study and are in the forms of themes, categories, theories or descriptive accounts that explain the data. She further provided that the categories are a result of three sources: the researcher, the participants, or outside sources such as the literature. In this study, the qualitative data are analyzed by categories and themes and the quantitative data are analyzed for descriptive statistics, reliability scores, hypothesis testing, and inferential statistics.

According to Stack (1995), all research is a search for patterns and consistencies. What may be called correlation or covariation in a quantitative study, he refers to as pattern in qualitative study. Potentially significant themes, concepts, and ideas were revealed through data collection. Initial themes, reoccurring words, phrases, topics, and eventually patterns and themes were recorded. This process allowed for continuous refinement; initial categories were altered as needed; new categories were created; and new relationships were revealed. Qualitative research amasses a tremendous amount of data that has to be organized and stored. A data storage system and field notes will be kept using the following steps, as recommended by Maykut and Morehouse (1994):

Step 1: transfer the raw data into a readable form for analysis;

Step 2: code all data with some basic elements – type, source, and category;

Step 3: photocopy all documents, preserve the original data set, and use the copy for analysis (p. 130).

To effectively analyze, sort, and triangulate the data, a system of color coded file folders was created to store the hard data for each study school. An Excel database was created to record the findings and serve as a means of organizing data. Each data entry was labeled by entry number, type of data (interview, observation, document review), identifier (school, who was interviewed, learning spaces observed, or type of document). Columns were created to list the

emerging themes and commonalities. Comments were pasted on separate data entry pages. This section of the transcriptions was recorded under Comments and the demographics of each study school were listed under Notes.

After organizing the data, there were 103 data entries. Using the Excel database, the data was sorted by identifiers. Further scrutiny of the transcriptions, sentence by sentence and paragraph by paragraph, yielded 57 themes. A matrix was generated electronically, for each school, with all the identifiers, to show the connection between the interview questions, the observations and the document review with the themes. This provided an audit trail and made the data easily accessible for analysis and recording. Each piece of data was examined further to make a judgment as to how to categorize each entry, according to the themes, prior to entering the data into the Excel spreadsheet. Most data fell under more than one category so it was applied accordingly. The following themes, with very similar connotations, were married, as a means to consolidate some of the data: (a) staffing practices with part-time/full-time staff, (b) cohesiveness to the day with less fragmentation in the day, (c) specific allocation of time with use of time, (d) embedded flexibility with facilitating change, (e) division guidelines with division objectives, and (f) auxiliary special education programs with special education programs. This changed the final number for the theme analysis to 51 instead of 57, which was the initial number of recorded patterns.

After all data had been entered, the total number of occurrences for each column was calculated. The top 50% of the categories, which had the most commonality between the three principals in the case study schools, were ranked in ascending order. Using a conditional format of a score of 30 or higher, the following 20 themes emerged as the reasons shared for changing to an alternative schedule: (a) better scheduling, (b) high expectations for all students, (c) time on task, (d) student achievement, (e) effective use of time, (6) ownership by teachers in developing schedules, (7) integrated learning for students with special needs, (8) focus on enrichment and content, (9) differentiated instruction, (10) Standards of Learning, (11) teaming/collaborating, (12) importance of teaching roles and teacher efficacy, (13) staffing practices, (14) using time wisely, (15) division objectives, (16) needs of learners, (17) quality of staff, (18) interventions, (18) curriculum, and (20) the role of the principal as a change agent.

To streamline the categories, the 20 themes were collapsed into the following 10 specific categories: (1) Curriculum, (2) Class Size and Classroom Instruction, (3) Time on Task, (4)

Effective Use of Time, (5) Teaming, (6) Collaborating, (7) Continuity of Instruction, (8) Facilitating Change, (9) Staffing Practices, and (10) Teacher Efficacy. Combinations of associated themes, within this listing, created the final 6 domains, which are commensurate with the domains identified in the literature. They are: (a) Effective Use of Time and Time on Task, (b) Curriculum, Class Size and Classroom Instruction, (c) School Climate and Facilitating Change, (d) Staffing Practices and Teacher Efficacy, and (e) Teaming and Collaborating for Continuity of Instruction. This information is included in the Matrix for Qualitative Data Analysis (see Appendix J for the results).

A narrative format is used to report the results, accompanied by conceptual diagrams, matrices, and charts, as needed. Contextual references using anecdotal notes provide a more detailed description and analyses.

Summary of Qualitative Study

An Excel database was set up to record all findings and to organize the data. Each data entry was labeled by entry number, type (interview, observation, document review, identifier) who was interviewed, what was observed, notes, comments, and a place to identify the domain or category.

Transcriptions were entered, verbatim, using a cutting and pasting mechanism. Demographic data from the interviews and observations were recorded under the Notes section. Comments were placed in a comment section. When data fell under multiple domains, they were assigned to all applicable categories. Using Excel, the data were sorted by domain and then copied and placed together in a notebook by domain. Judgments obviously have to be made regarding the most appropriate placement of some data.

During the analysis phase, each domain was treated separately. Entries were read and reread and further themes or categories emerged. Merriam (2001) calls this thinking about the data. The data analysis provided the catalyst to draw inferences, “since it is a step toward developing a theory that explains some aspect of educational practice and allows a researcher to draw inferences about future activity” (p.188). These judgments required the further documentation of the statistical analysis of the survey before final inferences could be drawn.

Content for Research and Confidentiality

Permission for research was obtained from the Virginia Tech Institutional Review Board for the Protection of Human Subjects, Office of Research Compliance. Each person interviewed was assured of confidentiality and was asked to sign a consent form agreeing to the conditions of the research. For purposes of the study and to maintain confidentiality, the schools used in the study and the names of persons interviewed are identified with pseudonyms.

Quantitative Study

The second portion of this mixed methodology research design was the analysis of data gleaned from a survey of school principals in elementary schools across Virginia. The responses to the interview questions helped frame the survey questions. The survey strengthened and enhanced the overall study.

Quantitative research is the systematic scientific investigation of properties and phenomena and their relationships. Quantitative research is widely used in both the natural sciences and social sciences and very often is used as a way to research different aspects of education. According to Howell (1995), the objective of quantitative research is to develop and employ mathematical methods, theories, and hypotheses pertaining to natural phenomena. The process of measurement is central to quantitative research because it provides the fundamental connection between empirical observation and mathematical expression of quantitative research. Quantitative research is often an iterative process whereby evidence is evaluated, theories and hypotheses are refined, and technical advances are made. Quantitative methods are research methods dealing with numbers and anything measurable. They are therefore to be distinguished from qualitative methods. Counting and measuring are common forms of quantitative methods. The result of the research is a number, or series of numbers. These are presented in tables, graphs, and charts. This study involves a combination of quantitative and qualitative methods.

Procedure for Selection of the Sample

A census list of all school divisions in the Commonwealth of Virginia, currently utilizing alternative scheduling practices was obtained from Dr. Michael Retting, former professor at James Madison University, renowned consultant, and author of several books on elementary and secondary school scheduling practices. Dr. Rettig has provided training and guidance to staff in

these schools in implementing the specific changes and creating various instructional delivery models for reallocating time. A cluster sampling of urban, suburban, and rural school divisions in the Commonwealth of Virginia currently utilizing alternative schedules was the most efficient and effective sampling technique for this study. The sample of the quantitative, survey research is comprised of 125 elementary school principals across the Commonwealth from this list, representing 25 school divisions.

Instrumentation

Following the completion of the qualitative review of the interview responses and the school, sample survey questions for validation were developed. The questions reflect a combination of items representing the five domains resulting from the review of the literature and information gleaned from the observations and interviews. Six elementary administrators in Manassas Park City Schools were asked to scrutinize and assess the sample questions for reliability. Questions were evaluated for appropriate domain, importance, and understandability (see Appendices K and L for the validation survey and validation questions for the quantitative study). A chart identifying the source of survey questions, either from the literature review or the school study was created (see Appendix M). Once the final questions were determined, the completed survey was placed on the Internet using Survey Monkey.com.

Construct Validity

Construct validity is determined by calculating correlations between the measure to be validated and other measures. Because correlation coefficients describe the strength and direction of relationships between variables, it can determine whether a particular measure is related to other measures as it should be. Sometimes correlations between one measure and measures of other constructs can be high, however in other instances only moderate or weak relationships or none at all are noted. According to Leary (1994) to have construct validity, a measure must both correlate with other measures that it should correlate with (convergent validity) and not correlate with measures that it should not correlate with (discriminant validity). Therefore, this study illustrates how the impact of instructional mandates set forth in the NCLB Act on school divisions are associated with the decisions that have been made to implement alternative scheduling practices in elementary schools.

Reliability

Reliability as defined by Leary (1994) refers to the consistency or dependability of a measuring technique. A reliable measure is one that is relatively unaffected by sources of measurement error and thus is consistent and dependable. More specifically, reliability reflects the proportion of the total variance in a set of scores that is systematic, true-score variance. The reliability of measures is estimated in three ways: test-retest reliability, inter-item reliability, and interrater reliability. Leary further states that inter-item reliability refers to the consistency among the items on a scale and ideally, all of the questions on a particular scale to measure the same construct.

Pedhazur and Shelling (1991) do not set a standard for determining at what point reliability scores are acceptable. Accordingly, they stated that, “Obviously, other things being equal, the higher the reliability, the better” and “...it is for the user to determine what amount of error he or she is willing to tolerate, given the specific circumstances of the study” (p. 109-110).

Trochim (2001) says, “...you can’t calculate the true reliability; you can only estimate it” and “Cronbach’s Alpha tends to be a high estimate of reliability” (p. 304). Therefore, Cronbach’s Alpha has been applied to the questions used in the survey instrument.

Data Collection

The on-line survey was administered to a census list of 125 elementary school principals in the Commonwealth of Virginia where alternative scheduling practices are currently in place. This list was obtained from Dr. Michael Rettig, a nationally known expert, author and consultant on elementary and secondary scheduling practices. Dr. Rettig has provided guidance and staff development to restructure time and to implement the various alternative schedules in the identified schools. The principal at each school was emailed a letter introducing the survey, the purpose, and requesting individual participation by accessing an Internet link to the survey, (see Appendix N for the Letter to Survey Participants, Appendix O for the census list, and Appendix P for the survey instrument). A series of follow-up email reminders were sent to the principals with the link for the survey. Two requests for faxing a hard copy were accommodated in order to ensure a satisfactory return rate.

Once the on-line surveys were returned, the data were downloaded from the principals was downloaded into an Excel spreadsheet and the qualitative data were converted into appropriate numbers. Answers marked “Strongly Agree” were converted to 5; “Agree” converted to 4; “Not Sure” converted to 3; “Disagree” converted to 2; “Strongly Disagree” converted to 1. The answer, “Not Sure”, was placed at the end of the answer list in an effort to force the respondents to make a choice and not choose a neutral answer. However, for evaluation purposes, it was given the middle number.

Following data conversion, a statistical software package, SPSS, and Excel were used for analyzing data. Using the qualitative data from the interviews and the school documents and the quantitative data from the survey, conclusions were drawn to confirm the original theory and model espoused in the study.

Data Analysis

All the surveys were examined to determine if they met the basic criteria for inclusion in the study (elementary principal; no grade higher than sixth). Statistical hypothesis testing, applying Chi-Square and probability of Chi-Square to 3 x 2 contingency tables was completed as part of the data to determine if the theory presented was viable or a new theory needed to be developed. Statistical inference is based upon mathematical laws of probability to decide how likely it is that the sample results match the hypothesis about a population.

According to Howell (1995), frequency distribution is the distribution in which the values of the dependent variable are tabled or plotted against their frequency of occurrence. All questions regarding allocated minutes for intervention, unencumbered planning time, characteristics of the alternative schedules and demographic data were analyzed using simple frequency distributions. In addition, any questions relating to allocated minutes for instruction, before and after NCLB, per the following subject areas: Reading and Language Arts, Mathematics, Social Studies, Science, Music, Art, and Physical Education were similarly analyzed.

In the social sciences, quantitative research is often contrasted with qualitative research which is the examination, analysis and interpretation of observations for the purpose of discovering underlying meanings and patterns of relationships, including classifications of types of phenomena and entities, in a manner that does not involve mathematical models. Although a

distinction is commonly drawn between qualitative and quantitative aspects of scientific investigation, it has been argued that the two go hand in hand.

Summary of Quantitative Study

A survey, comprised of questions generated from themes that emerged from interviews as well as domains from the literature review, was developed and sent to a census list of a total of 125 elementary school principals in the Commonwealth of Virginia. Inferential and descriptive statistics were used to analyze the survey data.

The result of the data analysis was used to validate the original theory put forth in this study. Quantitative analysis through statistical calculations is forthcoming in the study. In this mixed method of data collections, the qualitative and quantitative studies became compatible as the responses of interviewees, document review, anecdotal information and surveys helped to clarify the literature. This symbiotic relationship of the two helped to embellish the study.

Summary

In 1996, Canady & Rettig wrote: “The success or failure of any block schedule will be determined largely by the ability of teachers to harness the potential of the schedule and improve instruction. This is our challenge” (p. 27). Based on the literature review and, particularly the scarcity of documented and empirical data on the effects of elementary scheduling, it seems clear that scheduling blocks of time for teaching and learning cannot serve as a true vehicle for change unless practitioners are prepared to seize the opportunities that it presents.

CHAPTER 4

REPORT OF THE FINDINGS – THE CASE STUDIES

During early December 2007, site visits were conducted at three elementary schools representing suburban, urban, and rural school divisions. Two schools are in Northern Virginia and one in Southern Virginia. All schools employ a specific time allocation model for delivery of instruction. All schools are fully accredited by state and national standards. The purpose of the case study was to answer three key questions:

1. What are the alternative scheduling practices in your school?
2. How have these practices changed over the last 5 years?
3. What are the reasons for the changes?"

Case Study

School A

The first school chosen for the study was visited on December 6, 2007. The school is located in a suburban school district in Northern Virginia in an affluent neighborhood. The school has approximately 450 students in kindergarten through fifth grade. The school enrollment composition is indicated in Table 1.

Table 1

Student Enrollment at School A

Demographics	Per Cent of Total Enrollment
Caucasian	94
African-American	2
Other	4
English Language Learners	2
Students receiving special education services	2
Students eligible for free/reduced lunch	5

The principal describes the student demographics and the need for racial, ethnic, and gender balance with working with students:

Ninety-four percent White. I mean it's significantly Caucasian and much of it has to do with economics. We're doing a long year of staff development for administrators and

managers in the district, using Glenn Singleton's work, *Courageous Conversations on Race*. We're looking at things like white privilege and unpacking the white backpack. We don't have huge diversity but we have a diversity of learners. (Principal A Interview, December 6, 2007)

The original school building was constructed around 1951-52 and the current school facility is newly remodeled and fresh from \$12.1 million dollars of new construction. There is a new principal who has over 15 years of tenure as an administrator and who is in her second year at the helm of School A. The school serves as the only elementary school in the county offering a strong behavior modification/therapeutic program for elementary students with special needs.

Interlude is actually the only elementary program for emotionally disturbed children. We are fortunate to have a full time therapist on staff to work with our counselor. The children move and matriculate into different middle schools. It is a point based system and needless to say, a lot of parent communication and some parent training because with these children, money doesn't make the difference. (Principal A Interview, December 6, 2007)

There is a highly involved and supportive PTA and Volunteer Program. Their efforts have culminated in the creation of an explorative courtyard and an outdoor learning area replete with a pond, library totem pole and a learning pavilion.

The school day is from 9:00 a.m. to 3:41 p.m. with early release for staff development on Wednesdays for all students at 1:26 p.m. There have not been any changes in school hours over the past 5 years. The kindergarten through fifth grades have four classes except for the first grade, which has five.

The alternative scheduling practice used in School A is the specific time allocation model which includes scheduling large blocks of uninterrupted instructional time, specifically for reading and mathematics, with consistent daily periods for instruction. The new schedule was implemented during the 2007-2008 school year.

School B

The second case study school, School B, in a rural county in the southern part of the state, was visited on December 10, 2007. The school has approximately 370 students in third through fifth grades with a little more student ethnic diversity than School A as indicated in Table 2. School B also has a higher percentage of students with special needs and students eligible for free/reduced lunch.

Table 2

Student Enrollment at School B

Demographics	Per Cent of Total Enrollment
Caucasian	85.0
African-American	7.5
Other	7.5
English Language Learners	7.5
Students receiving Special Education services	12.0
Students eligible for Free/Reduced Lunch	32.0

The principal at School B describes the student demographics and the cultural and ethnic diversity of her students:

I can tell you that we do not meet the minimum for AYP anywhere except special education students. Our ESL population is very small. Our Black population, again, we do not meet minimum for minority figures...

We have a real wonderful diversity here. Not only the diversity of culture but the diversity of ability and not just academic ability, but all abilities: art, music, athletics, whatever. (Principal B Interview, December 10, 2007)

The school facility is a relatively new building, approximately seven years old. The principal has over 30 years of tenure as an administrator, having also worked as an Elementary Education Coordinator and Federal Program Director in the county. This is her fourth year as principal of School B. It is one of three elementary schools in the Division and the only one for just third through fifth grade students.

The school day is from 8:25 a.m. to 3:05 p.m. and there have not been any changes made in the hours of the school day over the past 5 years. There is no early release time. There are seven third grades, six fourth and fifth grades. In addition to the homeroom teachers, the staff also includes: one extension teacher and special education teacher per grade level; four specialists teaching art, music, physical education and library; two reading specialists; three additional special education teachers for students with significant disabilities; two reading instructional assistants and one computer lab/technology assistant.

When you go into parallel block, reading is opposite music and physical education, which can be slightly large groups. When you're pulling the math, then we have math extension, math computer lab, and learning center, so it's all part of that block. With the appropriate staff, it gave us a five-day rotation and enabled us to have slightly smaller groups and provided a higher level of intervention. (Principal B Interview, December 10, 2007)

The alternative scheduling practice employed in School B is the parallel block which is used to schedule students to reduce class size, increase instructional time, and reduce the effects of pull-out programs. The parallel block schedule has been the primary instructional delivery model for approximately 15-18 years. A change occurred three years ago when the staff rearranged the schedule.

School C

The last case study school, School C, was visited on December 12, 2007. The school has approximately 373 students in grades fourth and fifth along with 39 students attending a Head Start class and two pre-kindergarten classes for a total of 412 students. School C has greater student diversity than either Schools A or B as indicated in Table 3.

Table 3

Student Enrollment at School C

Demographics	Per Cent of Total Enrollment
Caucasian	33.0
African-American	10.2
Asian	6.9
Other	2.7
English Language Learners	47.2
Students receiving special education services	9.8
Students eligible for free/reduced lunch	43.0

The principal describes the student demographics and the cultural and ethnic diversity of her students:

I think one of the many benefits, when you have students obviously with many diverse learning styles and cultures, is that all children are getting the opportunity to experience different learning and teaching styles and different classroom environments through this schedule. (Principal C Interview, December 12, 2007)

The school facility is approximately 58 years old and 23 learning cottages adorn the front entrance of the school. A brand new facility, specifically designed for the incorporated scheduling model, will open in the spring of 2009. The principal has over 12 years of experience as a teacher and administrator, with all but four of those years in the same school district. This is her third year as principal of School C. It is one of two elementary schools in the school division and the only one for just fourth and fifth grade students.

The school day is from 8:00 a.m. to 2:50 p.m. There is no early release time. There are nine fourth grades, eight fifth grades and one fourth and fifth grade multi-age class. In addition to the homeroom teachers, the staff also includes: three science and three social studies extension teachers; a reading specialist and a reading assistant; two ESL teachers and one ESL assistant; a special education teacher per grade level; four specialists teaching art, music, physical education; a librarian and a library assistant; two reading specialists; two additional special education teachers for students with significant disabilities; two band teachers; four early childhood/preschool teachers and assistants; and one computer lab/technology assistant. The ESL/Community Outreach liaison for the Division is also housed in the school.

We currently run a schedule where our day is divided into eight 45 minute blocks of learning time, to include a zero period, targeted instruction by specialists, intervention, and tremendous encore programs. (Principal C Interview, December 12, 2007)

The alternative scheduling practice employed in School C is the modified parallel block, which schedules students to reduce class size with specific blocks of learning time throughout the day. The central components are teacher teams, clusters of students, and designated times to plan and learn. The original parallel block schedule was implemented in 2001 and the current one has been in place for 2 years. A change occurred three years ago when the staff re-arranged the schedule and added a zero period, initially as a way to find the time to address some of the additional needs of their special education students and create an extra enrichment period during the day.

All of our fifth grade students are members of our world-class band program. In its original concept, all students, including those with special needs, moved between some enrichment offering – band, art, music and those students needing tutorials remained in their homerooms and no new instruction took place. (Principal C Interview, December 12, 2007)

Summary of Case Study Findings Summarized by Literature Domains

The interviews with the principals, observations, and reviews of the documents at each study school provided data for the case study. During each school visit, a formal interview was conducted with the principal, school documents were shared and a guided tour was conducted by the principal or an administrative designee, in one case study. The total amount of time spent at each school was approximately two hours.

In its 2006 study about the effect of NCLB on school districts, the Center on Education Policy noted evidence of a narrowing curriculum.

According to the study, 71 percent of school districts reported that they have reduced instructional time in at least one subject to make more time for reading and mathematics. In some districts, struggling students receive double periods of reading and math or both...sometimes missing certain subjects altogether. (p.vii)

In the case study schools, the importance of time allocation is central to resolving their issues regarding their alternative schedules. Of particular interest to this study are their responses to the following areas: the specific characteristics of scheduling practices; how the schedules in each school have changed over the past five years; the reasons for the change; the impact on instruction; the effective use of time; planning time for teachers and the impact on the overall school climate. The data are organized in chart form and reported by domains identified in the literature review along with other domains derived from the case studies. The data are depicted in Table 4 and summarized by the three key study questions.

Table 4

Case Study Schools: How Schedule Relates to Literature Domains

Domain	School A	School B	School C
Class Size	<p>“We’re a small school with highly able learners. We do a good job of focusing on the lower quartile and the gifted but I worry about the children in the middle.” (Principal A Interview, December 6, 2007).</p> <p>Most of the classrooms visited had very small pupil-teacher ratios, except first grade. There is a population boom in the northwest quadrant of the county. (School A Observation and Field Notes, December 6, 2007).</p>	<p>“There was a strong desire within the staff to make a change to maintain the parallel block. The purpose was to enable the movement of students; the change in reading group; the ability to put a student where he/she belonged based on assessments and progress rather than artificially just have them in a small group.”(Principal B Interview, December 10, 2007).</p> <p>There are a myriad of tiers of intervention built into the schedule. Consequently, due to the constant movement and rotation of students as well as the number of staff providing varying levels of instruction throughout the day, class sizes, labs, learning centers were observed to have as few as 2 students in a group to a high of 10 students in a small group. (School B Observation and Field Notes, December 10, 2007).</p>	<p>“Students receive targeted math and reading instruction in small group, roughly 12 students, for a 45 minute of time. EZ Extension allows for small group reading and mathematics instruction.” (Principal C Interview, December 12, 2007).</p>

(Table continued)

Table 4 (continued)

Domain	School A	School B	School C
Instructional Factors	<p>“The change for me was implemented from the county’s objectives and a new major language arts curriculum adoption. The challenge is how you marry the new curriculum with exemplary projects and state rubrics. New teachers coming in seem to adjust more readily to the changes. They are not as opposed to certain strategies like common assessments and departmentalization by subjects as more seasoned or veteran teachers tend to be.” (Principal A Interview, December 6, 2007).</p>	<p>“All of my specialists are also focused on teaching the course; so my PE teacher does unbelievable things, like teach fractions, VA history, whatever needs to be taught. In our previous parallel block with the main block in place to create smaller reading groups, there were problems with reading being plugged in at different times in the day based on what the specialists could do. And in order for a child to change reading groups, you’d have to change homerooms.” (Principal B Interview, December 10, 2007).</p> <p>“The best thing we can do right now is create another tier of intervention. So starting in January, Friday Focus Time will be implemented – 1 hour in our schedule at the grade levels for focused intervention and enrichment”. (Principal B Interview, December 10, 2007).</p>	<p>“All of our staff members teach skills through their content areas during ‘zero period’ each day. There is much conversation among staff as far as what skills should be addressed.” (Principal C Interview, December 12, 2007).</p>
Planning Factors	<p>“One of my goals was to have joint planning time. I wish we could all switch roles so we can see how important everyone’s role is; I have five first grades, which has thrown a little wrench in my common planning time.” (Principal A Interview, December 6, 2007).</p>	<p>“I have team planning times and two kinds of teams: grade level teams which include the specialists and special education teachers, all with common planning time.” (Principal B Interview, December 12, 2007).</p>	<p>“We’re able to maximize the instructional abilities of all staff through common planning time. Our science and social studies teachers are content specific yet we utilize their expertise as part of the grade level teams for skill instruction, data analysis. You really have to work as a team.” (Principal C Interview, December 12, 2007).</p>

(Table continued)

Table 4 (continued)

Domain	School A	School B	School C
Use of Time Factors	‘We are looking at recess duties for safety issues, and with the children along the spectrum, they require more facilitated integration of play. There is a lot of ownership in the schedules.’ There is a scheduling committee comprised of teachers representing grades 1, 3, 5 and a specialist and special education committee to evaluate scheduling practices regularly. (School A Observation and Field Notes, December 6, 2007).	Working very closely as a team, the scheduling committee, along with the principal created much more flexibility in their parallel block schedule. The new schedule allows for more flexible grouping in reading and math; a two faceted Title 1 program with a ‘push-in’ component and learning center time. During learning center time, each teacher on a grade level takes turns, one week, every six weeks to teach areas of weakness identified by the school’s benchmark tests. (School B Observation and Field Notes, December 10, 2007).	“By implementing the block schedule, it allowed that time, that block of uninterrupted teaching and learning time. It also provided equal access to the curriculum for students.” (Principal C Interview, December 12, 2007).
School Climate	The school was very child-centered with numerous displays of student work throughout the school. The principal is very positive about her school, students, and community. She has had to facilitate changes in staffing and provide multiple staff development opportunities to help teachers accept more responsibility for the schedule. (School A Observation and Field Notes, December 6, 2007).	The school is bright and exudes lots of warmth with lots of student movement with minimal noise and disruption. Staff members and students were extremely friendly and forthcoming about their school and the instructional delivery model, the foundation of which has primarily been in place for over 15 years. (School B Observation and Field Notes, December 10, 2007).	<p>“When you have students, obviously, with many diverse learning styles and by having them move, the movement in between classes definitely helps with behavior at any level.” (Principal C Interview, December 12, 2007).</p> <p>Students were observed during a class change from within the building and between the 23 learning cottages. It was free of disruption and the transition time was minimal as they appeared to easily transition from the different classrooms and learning environments, through this schedule. (School C Observation and Field Notes, December 12, 2007).</p>

(Table continued)

Table 4 (continued)

Domain	School A	School B	School C
Other: Collaboration/ Teaming Teacher Efficacy	<p>There are division guidelines for allocated instructional time for specialists. (School A Field Notes, December 6, 2007).</p> <p>“The camaraderie that is developing as a result of working as a team is certainly powerful.” (Principal A Interview, December 6, 2007).</p> <p>“Teachers need to respect the roles of other teachers more.” (Principal A Interview, December 6, 2007).</p>		
Other: Facilitating Change		<p>“I have my professional learning communities which we call our teams. In order to make this successful and to facilitate change, I have to work and learn right along with my staff.” (Principal B Interview, December 12, 2007).</p>	
Other: Staffing Practices			<p>‘We’re preparing and developing students that can adapt and change to different situations and can work with different classroom dynamics and that’s also very positive. So staff have to engage in practices to make that happen on a daily basis’. (Principal C Interview, December 12, 2007).</p>

(Table continued)

Table 4 (continued)

Domain	School A	School B	School C
Other: Staffing Practices (continued)			Even though, the building and learning cottages are not aesthetically appealing externally, the internal displays of student work, the brightness and warmth encountered upon entering the physical structure and the people inside, all witnessed by the observer provided evidence of teaming, camaraderie and a collaborative learning environment. (School C Observation and Field Notes, December 12, 2007).

Canady and Rettig (1995) urged educators to consider the power of the schedule on a school's instructional climate and instructional program. A simple alteration of a school schedule does not constitute a panacea for the ills of education but these three principals in the case study schools share a belief that their new and different schedules have had a positive impact on their respective instructional programs.

Three major points summarize the beliefs of Canady and Rettig (1995) on the power of scheduling that are also embraced by the principals:

1. *A schedule permits the effective utilization of people, space, and time in an organization.* Each of the principals credits the schedule as an effective means of dealing with classroom space, overcrowding and student enrollment. There was a strong desire of all three principals to encourage teachers to embrace the schedule and become risk-takers with developing and altering the schedule in order to meet the needs of all learners.
2. *A schedule can help solve or be a major source of problems related to the delivery of instruction.* The schedule facilitated conversation among all three staffs regarding ways to focus more on instruction, to create more time for enrichment/intervention, to utilize all staff to teach content and to work closely as members of teams and professional learning communities.
3. *A schedule can facilitate the institutionalization of instructional practices and programs.* The schedule at School A provided opportunities to connect current exemplary projects and programs with the county's objectives and with state mandates. School B was able to create another tier of intervention—an hour once a week at every grade level for focused enrichment and remediation. At School C, a daily “zero period” was incorporated for all staff members to teach targeted skills through content areas to homogeneous groups of students,.

The three methods of instructional delivery at the case study schools contain some of the basic elements of restructuring as described by Lewis (1989): (a) changing the way students learn and teachers teach; (b) being student and teacher centered; (c) applying to all schools and all students, not just the disadvantaged; (d) affecting curriculum as well as organization; and (e) being advocated by diverse interests in society.

The formal rearrangement of the use of time in school has allowed them to create and sustain active school cultures and supporting infrastructures they need to improve student learning. According to Donahoe (1993) all of these components are needed “to bring about the creation of truly new American schools” (p. 305).

For over five years, the NCLB Act, which was part of the most recent reauthorization of the Elementary and Secondary Education Act has been the major school reform agenda in America. The Virginia ASCD believes that the goal of leaving no child behind can only be met if all learners are engaged in the learning experience. Research on learning and the brain indicates that an engaged student has increased recall and retention of content (Virginia ASCD Legislative Positions, 2006).

Proponents of alternative scheduling, (Canady & Rettig, 1995; Carroll, 1994; Cawelti, 1994) suggest that educators consider the power of the schedule on a school’s instructional climate and instructional program and a revision of traditional ideas about the school day, week, and, possibly, the school year. They further suggest that to teach a strong, comprehensive curriculum to all students requires a core block of instructional time. The three principals of the case study schools believe that learning is a continuous, unbroken path that extends through life and that all children are deserving of equalized and maximized opportunities. Their individual scheduling practices and reasons for making changes to their instructional delivery models are summarized by the research questions.

Flexible scheduling in the elementary school is not a new concept. Inspired by the reform movement in the 1990s that focused on the child and learning centered environment, elementary educators have been searching for methods to enhance student learning. The reallocation of time is among the innovations. The basic premise is that by partitioning the school day into longer time periods and providing teachers more flexibility in how they use time, elementary school faculties can create a framework that favors the needs of the learners rather than the needs of the school organization (Canady, 1996).

A *specific time-allocation model* refers to the method of allocating uniform and specific blocks of uninterrupted instructional time by grade level, students, or subjects for learning throughout the day. The central components at the elementary school level are teacher teams, clusters of students, and time to plan and learn (Canady & Rettig, 1995). School A utilizes a specific time-allocation model.

Parallel block scheduling refers to the method of scheduling students in order to reduce class size, increase instructional time, and reduce the effects of pull-out programs. The parallel block method is used primarily in elementary schools. Parallel block scheduling divides a class of students into two groups. One group of children stays with their classroom teacher for instruction in an academically demanding subject, such as math or language arts, while the other group attends physical education, participates in music, or visits a lab. After a prescribed length of time, the two groups swap. This schedule provides all students with a more individualized learning experience (Canady, 1990). School B utilizes a parallel block schedule.

Alternative scheduling refers to all other methods of scheduling students to reduce class size and to increase instructional time. Students are organized among teachers using any of the following components: (a) coordinated schedules for instruction in reading, mathematics, special programs, and support services; (b) consistent and specific blocks of uninterrupted teaching and learning time throughout the day; and (c) instruction in reading and mathematics provided in reduced size groups (Conyers, 1987) The alternative schedule in School C is a modified parallel block schedule.

One premise of NCLB is that the constant pressure of a rigid testing program will somehow generate more learning in the classroom which, in turn, will lead to higher test scores (Fuller 2006). Each case study school has responded to this assertion by making adjustments to their alternative schedules.

Research Question 2: How Have these Practices Changed over the Last 5 Years?

The implementation of the alternative schedules in the three case study schools ranges from a newly-initiated schedule during the 2007-2008 school year at School A to a parallel block schedule which has been the primary instructional delivery model for approximately 15 to 18 years in School B to a modified parallel block that has been in place for two years in School C. School A rearranged the schedule as a result of changes in staffing practices and a need to develop more collegial relationships in order to effectively deliver instruction and infuse a new language arts curriculum adopted by the Division.

The alterations in the schedule at School B occurred three years ago when the staff rearranged the schedule to facilitate continuous movement and progression of students across subject areas. Another objective of the change was to increase tiered intervention/remediation.

The original parallel block schedule was implemented in 2001 at School C and the current one has been in place for 2 years. A change occurred three years ago when the staff re-arranged the schedule and added a zero period. The zero period was adopted initially as a way to find the time to address the additional needs of the special education students and to create an extra enrichment period during the day. This institutionalized program now involves all staff in the teaching of skills through their content areas.

Agreeing that instruction in American public schools is caught in the rigid structure of the schedule, Canady and Rettig (1995) and Cawelti (1994) characterized alternative schedules as ‘catalysts for change’ since standards are now being used to define what instruction should be in schools. The essence of the matter is the relationship between time and learning (Canady, 1991). Scheduling longer blocks of instructional time facilitates the improvement of instruction through the use of varied instructional strategies which fit the student learning styles better than the traditional lecture and teacher-directed styles prevalent in some of today’s classrooms (Cawelti, 1994).

The changes in the schedules, as attested to by all three principals, have produced benefits including: facilitating a variety of instructional strategies; increasing instructional time and actively engaging students in learning; and improved collegial and teacher-student relationships.

To offer real educational equity, Bracey (2003) believes teachers have to employ differentiated instructional practices that help children develop cognitive processes, the skill sets and the social capital that give rise to successful engagement in our society. The principals in the case study schools identified those same issues as reasons for the changes made to their scheduling practices.

Table 5

Research Question 3: What are the reasons for the changes?

School	Primary Reasons for Changes	
School A	1.	To follow division objectives and curriculum adoptions.
	2.	To create more planning time and opportunities to allow specialists to collaborate with teachers on instruction and achievement.
	3.	To have consistent planning minutes and joint planning time.
	4.	To have common assessments across grade levels.
	5.	To encourage teachers to become more involved with modifying the schedule.
	6.	To individualize and target instruction.
	7.	To help teachers better understand the importance of their roles and responsibilities. "I needed to hire quality staff to replace some retiring teachers who had been great teachers at one time but who were reluctant to embrace the change to the new schedule". (Principal A Interview, December 6, 2007).
	8.	To value the contributions of all staff. "There was a lack of teamwork and collegiality between the core teachers and specialists. There needed to be more respect for each other and their contributions". (Principal A Interview, December 6, 2007).
	9.	To create a strong mentorship program within the school.
	10.	To provide integrated learning opportunities for students with special needs.
	11.	To increase student achievement and meet the needs of all learners.
	12.	To find creative ways to teach and manage in this age of accountability.
	13.	To integrate more teaming for instruction across content areas.
	14.	To deal with an increase in student enrollment. "We needed to find a way to maximize classroom space to prevent having to use 'relocatables' (trailers)". (Principal A Interview, December 6, 2007).
	15.	To maximize staff development opportunities.
	16.	To find ways to help staff marry the new Division Language Arts curriculum with state rubrics and the already exemplary school projects.
	17.	To have lead teachers form a scheduling committee for consensus building among the staff.
	18.	To create a safe situation on the playground and have facilitated integration of play during recess.
	19.	To effectively and efficiently incorporate the extra minutes added onto the instructional day.
	20.	To figure out where the 'lost minutes' of instruction happen during the school day.
	21.	To find ways to use transition time wisely.
	22.	To have more cohesiveness to the day.

(Table continued)

Table 5 (continued)

School	Primary Reasons for Changes
School B	<ol style="list-style-type: none"> 1. To build in more focused time for intervention during the school day. 2. To create common planning time and opportunities to allow more collaboration on grade level. 3. To allow for continuous progress and movement of students in reading. 4. To reduce the number of pull-out programs. 5. To encourage teachers to become more involved with modifying the schedule. 6. To individualize and target instruction. 7. To create daily and consistent planning time. 8. To increase student achievement and meet the needs of all learners. 9. To reallocate the blocks of learning time periods previously used in the schedule. 10. To have common assessments across grade levels. 11. To have student placement based on performance assessment. 12. To ensure the continuum of progress and continuity of instruction. 13. To have all specialists focus on teaching core subjects, in addition to their specialties. 14. To create flexible reading groups while maintaining the parallel block. 15. To create more types of intervention. "My teachers decided to incorporate an added layer of intervention called, "Learning Center Time". (Principal B Interview, December 10, 2007). 16. To allow teachers to modify the schedule and be risk-takers. "I like to empower my staff to develop their schedule because they wanted to be able to move students appropriately based on instructional information". (Principal B Interview, December 10, 2007). 17. To provide for small focused intervention/enrichment at the grade levels for students whose SOL scores fall between the 80-85% benchmark. "We've got the flexible grouping. We have the chunk of intervention there in the learning center. So, the schedule allowed us to put in place an enrichment math program". (Principal B Interview, December 10, 2007). 18. To prepare for the impending Response to Intervention (RTI) procedures soon to be released from the Department of Education. 19. To maximize time on task for learning blocks.

(Table continued)

Table 5 (continued)

School	Primary Reasons for Changes
20.	To reallocate the time by subject, particularly in 3 rd grade reading in order to have a consistent one hour reading block and a 55 minute focused language arts block.
21.	To insure that real and meaningful instruction was occurring during small group instruction.
22.	To be able to regroup successfully and meet the needs of the learners because of assessments and data.
23.	To deal with the significant challenges of the schedule: focus on teaching the students while building a sense of ownership and belonging.
24.	To allow elementary students ample time to build relationships between teachers and students.
25.	To allow more focus on content and enrichment.
26.	To create team planning and professional learning communities in lieu of common planning time.
27.	To allow for more collaboration across teams and grade levels with the intervention specialists.
28.	To have teachers decide how to use time most effectively and efficiently while incorporating best practices for teaching children.
29.	To have more flexibility in staffing practices. "With our staffing, which in our county can be very challenging, we need a bit more flexibility. Our assistants, therefore, have been exceptionally well-trained". (Principal B Interview, December 12, 2007).
30.	To appreciate the ample staffing currently in place. "Parallel block requires a lot of staffing and that's one reason a lot of schools are reluctant to implement this or any type of alternative schedule." (Principal B Interview, December 12, 2007).
31.	To insure that all students are ready emotionally, socially, academically by creating a balance between accountability, teaching and learning. "My teachers don't want to know did we make AYP or didn't we make AYP? They want to know how individual students did; especially the students they are most worried about." (Principal B Interview, December 12, 2007).

(Table continued)

Table 5 (continued)

School	Primary Reasons for Changes
School C	<ol style="list-style-type: none"> 1. To create an intervention during the day initially to accommodate students with special needs. “We have all of our staff involved- our music, art, they are all involved in the zero period teaching skills through their own content areas.” (Principal C Interview, December 12, 2007). 2. To create common planning on grade level to include content specific teachers and specialists. 3. To involve more staff in the teaching and learning process, through an interdisciplinary approach across all content areas. 4. To reduce fragmentation of the instructional program. “You are able to manipulate the schedule with the embedded flexibility. This is apparent and powerful when we look at some of the results and the achievement of all of our sub-groups for AYP.” (Principal C Interview, December 12, 2007). 5. To find a way to have small group targeted reading and math instruction. “By implementing the block schedule, it allowed that time, that uninterrupted, not worrying about how to meet the different needs of all students at once, time.” (Principal C Interview, December 12, 2007). 6. To encourage teachers to become more involved with modifying the schedule. 7. To individualize instruction. 8. To ensure all students have equal opportunity to access the curriculum. 9. To increase student achievement and meet the needs of all learners. 10. To have common assessments across grade levels. 11. To have all specialists focus on teaching core subjects, in addition to their specialties. 12. To create team planning time and professional learning communities. 13. To decrease disciplinary issues by creating more movement of students with diverse learning needs and expose them to varied teaching styles. “When you have students with many diverse learning styles, the movement in between classes definitely helps with behavior at any level.” (Principal C Interview, December 12, 2007). 14. To utilize the instructional abilities of the staff. 15. To maximize time on task. 16. To teach students how to adapt and to be flexible. “We’re developing students that can adapt to change and to different situations and can work with different classroom dynamics and that’s very positive.” (Principal C Interview, December 12, 2007).

(Table continued)

Table 5 (continued)

School	Primary Reasons for Changes
	17. To lessen the effects of pull-out programs – not only to decrease the loss in instructional time but to diminish the stigma usually associated with those students having to leave the classroom.
	18. To meet the needs of such a diverse student population. “We have students needing special education services, students who need ESL services, students who need Title 1 reading services. With this schedule, most specialists work their services in class and not at the expense of instruction and students’ self-esteem.” (Principal C Interview, December 12, 2007).
	19. To promote collaboration, free flowing of ideas, conversations about teaching and learning, and shared responsibility.
	20. To ensure overall student success. “I’ve seen this block schedule work with kindergarten and I see it working well with our 4 th and 5 th graders now. So I really do think it’s allowed our students to be more successful.” (Principal C Interview, December 12, 2007).

Common Themes

There were over 70 rationales that the principals of the case study schools articulated as the reasons for making changes in their scheduling practices. The principals also viewed these alterations to their schedules as major benefits to the overall school climate, to the instructional program and to the students and staff, as well. The following themes occurring during the interviews with the principals, were combined to consolidate and categorize the data: (a) common planning, joint planning time, team planning, shared planning, consistent planning minutes to planning time; (b) tiered intervention/enrichment, focused intervention, types of intervention, layers of intervention/enrichment, response to intervention to curricular intervention/enrichment; (c) fragmentation of the instructional program, more cohesiveness to the day; uninterrupted time to continuity of instruction; and (d) teaming, collaborating, sharing, teamwork, collegiality to collaboration.

The following five major categories emerged from these themes:

1. Effective Use of Time/Time on Task;
2. Curriculum, Class Size and Classroom Instruction;
3. Staffing Practices and Teacher Efficacy;
4. School Climate and Facilitating Change; and

5. Collaborating and Teaming for Continuity of Instruction.

Overwhelmingly, the reasons for scheduling changes centered on the goals of promoting efficient and effective use of time and maximizing time on task. Approximately 30% of the embedded responses address the need to facilitate more collaboration and planning time for all teachers. Common time for planning was expressed as a need across all grade levels, all departments and all content areas as a means to increase student achievement and meet the needs of the learners.

Issues relating to curriculum/class size and classroom instruction issues comprised another third of the reasons given for creating flexible scheduling. Respondents expressed a need for more focused, individualized and targeted, yet meaningful, instruction. Such instruction is best delivered through varied teaching modalities that maximize and showcase the pedagogical talents and skills of all staff.

All three principals shared, in varying degrees, two other themes specific to their respective school sites, which centered on the following: (a) staffing practices and teacher efficacy and (b) school climate and facilitating change. Each principal acknowledged a desire to have staff become more involved in making decisions about how to use time more efficiently and how to modify schedules while incorporating best practices for teaching children. Additionally, a strong mentorship program was needed in one case study school in order to help teachers value the contributions of others and to understand the importance of roles.

All three principals conceptualized their role in implementing alternative scheduling practices as a change agent. One of their primary functions, according to the principals, is to maintain a school culture and climate that ensures all students have equal opportunity to access the curriculum. According to one principal, disciplinary issues have decreased because of more movement of students and a myriad of opportunities to experience different teaching styles. Students have more positive self-esteem and self-image since the decrease in the number of pull-out programs and the associated stigmatization. Another proudly spoke of the ability to build positive student-teacher relationships with multiple staff and not just with the homeroom teachers and classmates.

A number of authors have identified the following benefits of flexible scheduling and reasons for incorporating longer blocks of time for teaching and learning: (a) teachers encounter fewer students per day and have longer preparation periods (Canady & Rettig, 1995; Jones,

1995), (b) teachers can develop closer relationships with their students with the extended time spent in class each day (Canady & Rettig, 1995), (c) longer lunch blocks and preparation periods can be used for meeting and planning (Schoenstein, 1995), and (d) instructional techniques can vary widely and include interdisciplinary approaches with teachers moving away from lecture methods (Canady & Rettig, 1995).

The reasons for changing to alternative scheduling practices espoused by the principals of the case study schools are commensurate with the research. Goodlad (1984) said that direct instructional time is increased by grouping students homogeneously for reading and mathematics with the scheduling being rooted in concerns about creating sufficient time to immerse students in the learning experience. Block scheduling at the elementary level is about teams, clusters of students, and time to plan and learn.

Cross-Case Analysis

The three elementary principals interviewed lead schools in the northern and southern parts of Virginia. Together, they have almost 60 years of experience in education and 9 years of experience exclusively as building principals. All three schools have a relatively small student enrollment with considerable variance in the ethnic composition of students. Each is fully accredited by state benchmarks and national standards.

The alternative practice was newly implemented during the 2007-2008 school year in one of the study schools. In the second study school, the schedule has been in place approximately 15-18 years. In the third school, the alternative schedule was introduced in 2001. Each schedule protects specific blocks of instructional time for reading instruction. Two of the schedules also allocate specific time blocks for mathematics instruction. Two schedules have included prescribed layers of intervention/remediation for all students. Additionally, each school has institutionalized special programs, projects and practices in their schools.

In each study school, there were strong desires within the staff to make alterations to the schedules to engage all students in their own learning and to protect instructional time, particularly for reading and language arts. The staff in each school, including the principal, participated in appropriate staff development prior to implementation of the alternative schedule.

Due to the scarcity of data on alternative scheduling in elementary schools, the literature is limited to five primary factors related to scheduling. The primary reasons for changing

scheduling practices shared by the principals of the case study schools are directly commensurate with four of the five factors in the literature. Both the literature and the principals in this study provide the following reasons for changing scheduling practices: (a) to maximize time on task for learning by reallocating blocks of time to reduce fragmentation of the instructional program – use of time factors; (b) to create common planning time, opportunities for conversations about teaching and learning and favorable circumstances for collaborating to insure continuity of instruction – planning time factors; (c) to individualize, focus and target real and meaningful instruction – instructional factors; and (d) to positively prepare students to be able to adapt and change to different situations without any stigmatization – school climate. The class size factor is indirectly subsumed under two factors – use of time and instructional factors. The flexibility of the schedule allowed for small group instruction throughout the day. According to the principals, in most instances, classes were divided in half and, oftentimes, regrouped according to skill development and to maintain a continuum of progress.

Use of Case Study Information for Survey Development and Further Study

The responses to the interview questions provided a framework for developing the survey questions. The composition of the survey questions reflect information from both the literature review and the data gleaned from the case studies. A survey matrix was created to organize and sort the data in order to categorize the patterns and common themes. The survey questions were selected, sorted by domain and validated prior to dissemination. This systematic scientific investigation was used to research this educational phenomenon and any emerging relationships. Documentation of the statistical analysis of the survey explained aspects of the educational practice of alternative scheduling in elementary schools and inferences were drawn about future research.

According to Howell (1995), the objective of quantitative research is to develop and employ mathematical methods, theories, and hypotheses pertaining to natural phenomena. The measurement process used in the study provides the fundamental connection between empirical observation and mathematical expression of the research.

CHAPTER 5

REPORT OF THE FINDINGS – THE SURVEY

During the month of February 2008, elementary principals in the Commonwealth of Virginia completed a survey of questions (see Appendix N) derived from the literature review and data from the case studies. Data are reported by the five domains of the study: the Effective Use of Time/Time on Task, the Curriculum/Class Size/ and Classroom Instruction, the Staffing Practices and Teacher Efficacy, the School Climate and Facilitating Change and Collaborating and Teaming for Continuity of Instruction and the three study questions:

1. What are the alternative scheduling practices in your school?
2. How have these practices changed over the last 5 years?
3. What are the reasons for the changes?"

Return Rate

The surveys were sent to a census list of elementary principals with alternative scheduling practices in their schools via the Internet through www.surveymonkey.com. One hundred-twenty-five principals were surveyed. Each week follow-up reminders were sent electronically. Post cards were also sent to encourage participation. Two requests were made for hard copies of the survey and they were faxed to those respondents. A total of 78, or 62%, of the surveys was returned. One factor that influenced the return rate in some of the larger school division was the procedure for approving requests to conduct research. One division only grants permission on a quarterly basis and the next approval date was after the survey had closed. In another division, the School Board made all final approvals and the request for approval of the research was not made in time to be placed on the School Board's upcoming agenda. As a result of these factors, three school districts with approximately twenty elementary schools meeting the selection criteria alternative did not complete the survey. The window of time was too small for potential respondents from those districts to be granted approval to participate in the study.

Instrument Characteristics

The responses to the survey questions include "Strongly Agree," "Disagree," "Strongly Disagree," and "Not Sure." These answers were converted to a Likert scale after the survey was downloaded from the survey service. A five was used for *Strongly Agree*; a four for *Agree*; a two

for *Disagree*; a one for *Strongly Disagree*; and a three for *Not Sure*. The answer, *Not Sure*, was placed at the end of the answer list in an effort to force the respondents to choose one of the three other responses rather than the neutral one. However, for evaluation purposes, *Not Sure* was given the middle number (three). Two negative questions, (Q18) *There is a lack of collegiality between core teachers and specialists*, and (Q37) *The district office determines scheduling practices* were re-coded before analyzing the results.

Reliability

Reliability scores were calculated to determine the quality and consistency of the survey instrument. Trochim (2001) says, "...you can't calculate the true reliability; you can only estimate it" (p. 304) and "Cronbach's Alpha tends to be a high estimate of reliability" (p. 304). Pedhazur and Shelling (1991) do not set a standard for determining at what point reliability scores are acceptable. For some studies, an Alpha score of .50 may be acceptable and in other studies, this score may not be acceptable. Obviously, all other things being equal, the higher the reliability, the better...and it is for the user to determine what amount of error he or she is willing to tolerate, given the specific circumstances of the study. (p. 109-111)

For this instrument, the overall reliability score of 0.992 was calculated. The sub-scores for the five domains ranged from 0.883 to 0.980. The reliability scores for the questions in each domain were: (a) 0.883 for Effective Use of Time and Time on Task; (b) 0.897 for Curriculum, Class Size and Classroom Instruction; (c) 0.962 for Staffing Practices and Teacher Efficacy; (d) 0.972 for School Climate and Facilitating Change; and (e) 0.980 for Collaborating and Teaming for Continuity of Instruction. These high alpha scores indicate the instrument's strong reliability and construct validity. Table 6 displays the alpha scores for the five domains.

Table 6

Test of Internal Consistency for Survey Domains

Domain	Number of Questions	Alpha Score
Effective Use of Time/Time on Task	8	0.883
Curriculum, Class Size and Classroom Instruction	11	0.897
Staffing Practices and Teacher Efficacy	8	0.962
School Climate and Facilitating Change	8	0.972
Collaborating and Teaming for Continuity of Instruction	6	0.980
Total Items	41	0.992

Characteristics of Respondents

Respondents' Experience as Principals

Categorical data were collected from each respondent on the length of time spent both as a principal and as a principal at his/her current school. Thirty three percent of the respondents have been a principal three years or less. Forty-six percent range from three to ten years in their leadership experience. Table 7 and Figure 2 display the years of experience of study participants.

Table 7

Respondents' (N=78) Years of Experience as Principals (Question 21)

Years of Experience	Per Cent of Respondents
<3	33.3
3 - 5	23.1
6 - 10	23.1
11-15	1.5
15+	9.0

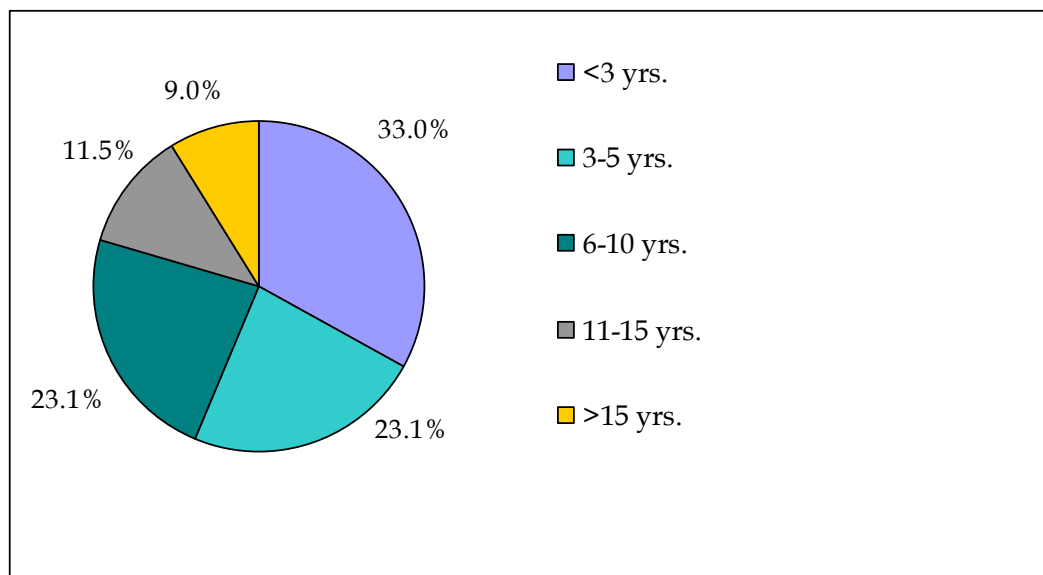


Figure 2. Respondents' years as principal.

Table 8 and Figure 3 display the years of experience of study participants in their current schools. Forty-six percent of the principals have been in their current school setting three years or less. Almost fifty percent have been in their schools between three and ten years.

Table 8

Respondents' (n=78) Years of Experience as Principal at Current School (Question 22)

Years of Experience	Per Cent of Respondents
<3	46.2
3 - 5	34.6
6 - 10	14.1
11-15	2.6
15+	2.6

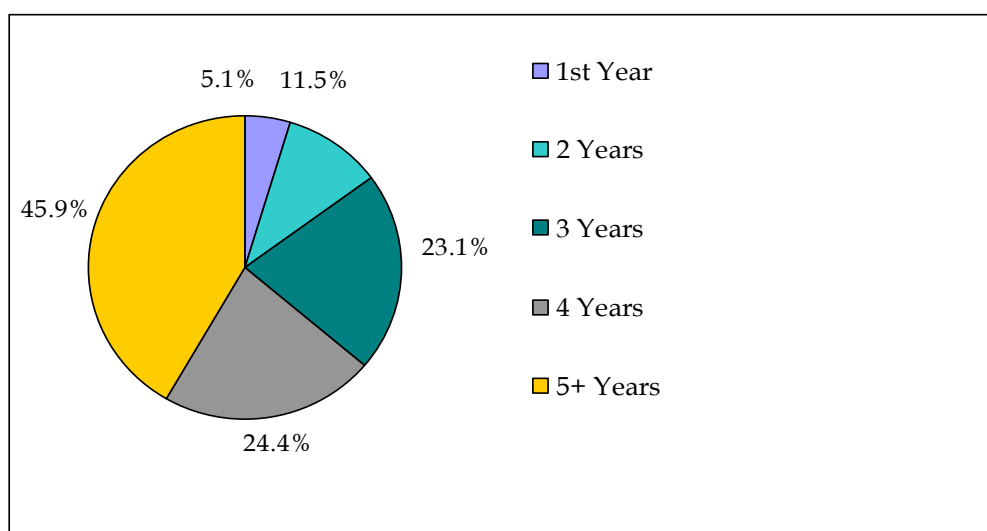


Figure 3. Respondents' years as principal at current school.

Description of Survey Responses

Data were compiled for each survey item. The means for the questions range from a high of 4.67 (Most people in the school work for the success of all students) to a low of 2.01 (Teachers have difficulty aligning instruction with the schedule). The standard deviations range from a high of 1.27 (Teachers are free to be risk-takers with modifying the schedule) to a low of .50 (The schedule provides a framework for better organization of instructional time). The average of the means is 3.91 and the average of the standard deviations is 0.23 (see Appendix Q for the means and standard deviations for all survey items).

The frequencies of responses along with the mean and standard deviation for each survey item are displayed according to the five domains in Tables 9-13.

Table 9

Frequency Table for All Respondents to Questions in the Effective Use of Time/Time on Task Domain

Question	Strongly Agree % (n)	Agree % (n)	Not Sure % (n)	Disagree % (n)	Strongly Disagree % (n)	N	Mean	SD
There is less fragmentation of the instructional program.	48.7 (38)	44.9 (35)	0.0 (0)	6.4 (5)	0.0 (0)	78	4.36	0.77
An intervention period for enrichment and/or remediation is built into the daily schedule.	57.9 (44)	31.6 (24)	0.0 (0)	10.5 (8)	0.0 (0)	76	4.37	0.93
The schedule provides a framework for better organization of instructional time.	52.6 (41)	47.4 (37)	0.0 (0)	0.0 (0)	0.0 (0)	78	4.53	0.50
Sufficient time is allowed for teaching special subjects, (art, music, library, physical education).	53.8 (42)	39.7 (31)	0.0 (0)	6.4 (5)	0.0 (0)	78	4.41	0.80
Teachers find it difficult to remain on schedule.	7.7 (6)	14.1 (11)	7.7 (6)	51.3 (40)	19.2 (15)	78	2.40	1.18
Teachers have daily and consistent unencumbered common planning time.	53.8 (42)	35.9 (28)	0.0 (0)	9.0 (7)	1.3 (1)	78	4.32	0.96
Teachers have difficulty aligning instruction with the schedule.	0.0 (0)	11.5 (9)	7.7 (6)	51.3 (40)	29.5 (23)	78	2.01	0.92
Time on task for learning is evident throughout the school day.	39.0 (30)	59.7 (46)	1.3 (1)	0.0 (0)	0.0 (0)	77	4.38	0.51

Table 10

Frequency Table for All Respondents to Questions in Curriculum and Classroom Instruction Domain

Question	Strongly Agree % (n)	Agree % (n)	Not Sure % (n)	Disagree % (n)	Strongly Disagree % (n)	N	Mean	SD
Students are more engaged in their own learning.	28.2 (22)	62.8 (49)	5.1 (4)	3.8 (3)	0.0 (0)	78	4.15	0.68
The schedule makes it easier to individualize and target instruction.	48.1 (37)	49.4 (38)	1.3 (1)	1.3 (1)	0.0 (0)	77	4.44	0.60
Specific blocks of uninterrupted instructional time are protected for teaching reading and math.	64.1 (50)	34.6 (27)	0.0 (0)	1.3 (1)	0.0 (0)	78	4.62	0.56
There is more flexibility with teaching and learning styles.	23.4 (18)	59.1 (46)	5.1 (4)	1.4 (8)	1.3 (1)	77	3.94	0.90
Teachers are better able to pace and make appropriate changes to the curriculum to meet the needs of students.	38.5 (30)	56.4 (44)	1.3 (1)	3.8 (3)	0.0 (0)	78	4.29	0.68
Assessment is perceived as a vital part of the instructional process.	59.0 (46)	37.8 (29)	2.6 (2)	1.3 (1)	0.0 (0)	78	4.54	0.62
Students are assessed frequently and regularly.	46.2 (36)	50.0 (39)	0.0 (0)	3.8 (3)	0.0 (0)	78	4.38	0.68
The principal shares test results frequently with all appropriate staff.	51.9 (40)	44.2 (34)	0.0 (0)	3.9 (3)	0.0 (0)	77	4.44	0.70
The number of pull-out programs has decreased.	16.0 (12)	48.0 (36)	4.0 (3)	29.3 (22)	2.7 (3)	77	3.45	1.15
The lowest teacher-pupil ratio is maintained during small group instruction in math and language arts.	33.3 (26)	50.0 (39)	1.3 (1)	12.8 (10)	2.6 (2)	78	3.99	1.05
There are more integrated learning opportunities for students with special needs.	26.9 (21)	60.3 (47)	2.6 (2)	10.3 (8)	0.0 (0)	78	4.04	0.84

Table 11

Frequency Table for All Respondents to Questions in Staffing Practices and Teacher Efficacy Domain

Question	Strongly Agree % (n)	Agree % (n)	Not Sure % (n)	Disagree % (n)	Strongly Disagree % (n)	N	Mean	SD
The staff makes decisions with the principal regarding time for teaching and learning.	29.5 (23)	61.5 (48)	5.1 (4)	3.8 (3)	0.0 (0)	78	4.17	0.70
The principal visits classrooms frequently.	52.6 (41)	46.2 (36)	0.0 (0)	1.3 (1)	0.0 (0)	78	4.50	0.57
There is a lack of collegiality between core teachers and specialists.	3.8 (3)	9.0 (7)	3.8 (3)	44.9 (35)	38.5 (30)	78	1.95	1.06
Teachers consistently take ownership for developing and/or adjusting the schedule to meet the needs of the students.	24.4 (19)	51.3 (40)	3.8 (3)	19.2 (15)	1.3 (1)	78	3.78	1.06
Staff members participate in the hiring process.	29.5 (23)	37.2 (29)	3.8 (3)	25.6 (20)	3.8 (3)	78	3.63	1.26
A strong mentorship program is in place to orient new staff to the nuances of the schedule.	31.2 (24)	58.4 (45)	0.0 (0)	10.4 (8)	0.0 (0)	77	4.10	0.85
The principal makes some scheduling decisions without the input of staff.	5.2 (4)	62.3 (48)	1.3 (1)	19.5 (15)	11.7 (9)	77	3.30	1.20
The school schedule is now a key consideration when hiring staff.	16.9 (13)	29.9 (23)	2.6 (2)	39.0 (30)	11.4 (9)	77	3.01	1.36

Table 12

Frequency Table for Respondents to Questions in the School Climate and Facilitating Change Domain

Question	Strongly Agree % (n)	Agree % (n)	Not Sure % (n)	Disagree % (n)	Strongly Disagree % (n)	N	Mean	SD
Appropriate staff development was imperative prior to implementation of the alternative schedule.	26.9 (21)	59.0 (46)	6.4 (5)	7.7 (6)	0.0 (0)	78	4.05	0.80
The principal participates in staff development.	64.1 (50)	34.6 (27)	0.0 (0)	1.3 (1)	0.0 (0)	78	4.62	0.56
Teachers are free to be risk-takers with modifying the schedule.	23.1 (18)	43.6 (34)	6.4 (5)	17.9 (14)	9.0 (7)	78	3.54	1.28
Teachers have fully embraced the schedule and the allocation of time.	26.0 (20)	58.4 (45)	5.2 (4)	10.4 (8)	0.0 (0)	77	4.00	0.85
Teachers better understand the importance of their roles.	32.1 (25)	55.1 (43)	7.7 (6)	5.1 (4)	0.0 (0)	78	4.31	0.74
All students are benefiting from the structure.	35.9 (28)	55.1 (43)	5.1 (4)	3.8 (3)	0.0 (0)	78	4.23	0.71
The district office determines the scheduling practices.	5.1 (4)	21.8 (17)	6.4 (5)	35.9 (28)	30.8 (24)	78	2.35	1.27
Teacher leadership and involvement in the scheduling process has improved overall school operations.	29.9 (23)	61.0 (47)	2.6 (2)	6.5 (5)	0.0 (0)	77	4.14	0.75

Table 13

Frequency Table for All Respondents to Questions in the Collaborating and Teaming for Continuity of Instruction Domain

Question	Strongly Agree % (n)	Agree % (n)	Not Sure % (n)	Disagree % (n)	Strongly Disagree % (n)	N	Mean	SD
Shared decision-making and collaboration across grade levels is more evident among staff.	43.6 (34)	48.7 (38)	0.0 (0)	7.7 (6)	0.0 (0)	78	4.28	0.82
Most people in the school work for the success of all students.	70.1 (54)	28.6 (22)	0.0 (0)	1.3 (1)	0.0 (0)	77	4.68	0.54
Specialists collaborate with classroom teachers on instruction and achievement.	39.7 (31)	53.8 (42)	1.3 (1)	5.1 (4)	0.0 (0)	78	4.28	0.73
There are multiple opportunities for all core, content specific, specialists, and intervention teachers to collaborate on teaching and learning.	19.2 (15)	52.6 (41)	1.3 (1)	23.1 (18)	3.8 (3)	78	3.60	1.15
Teachers are involved collaboratively with the principal on student placement decisions.	42.9 (33)	50.6 (39)	1.3 (1)	5.2 (4)	0.0 (0)	77	4.31	0.74
There are multiple opportunities for all core, content specific, encore and intervention teachers to collaborate with each other by department.	15.6 (12)	53.2 (41)	3.9 (3)	26.0 (20)	1.3 (1)	77	3.56	0.84

Analysis of Time Allotment for Subjects before and after NCLB

In order to test for the relationship between the passing of NCLB and changes in time allotted for the various subjects (reading/language arts, mathematics, social sciences, science, music, art, and physical education), respondents were asked to record the number of minutes presently allocated to each subject and the number of minutes allocated five years ago. The number of minutes recorded as being in place five years ago is used to define the time allocation prior to the passage of NCLB. The number of minutes currently allocated for teaching the subjects is used to define the time allocation after the passage of NCLB.

Tables 14 to 20 display the summary data of actual minutes allotted for teaching and learning presently and five years ago. For purposes of this study, these data were consolidated. The original six columns of time were collapsed to three, by grade level and subject area. Two rows were used for investigating the number of allocated minutes before NCLB and after NCLB. To further test the relationship between the implementation of NCLB and changes in scheduling practices for various subjects, the Person chi-square statistic was computed using the following formula:

$$\chi^2 = \sum [(O-E)^2 / E]$$

where O equals the observed frequency in each category, E equals the expected frequency in each category and the summation is made over all categories.

This consolidation resulted in 3x2 contingency tables that were used to analyze the data with the chi-square statistic. The results of the consolidation of data and the resulting chi-square results for each subject area for kindergarten through grade 5 are displayed. The allocation of minutes for grade 6 is included but chi-square analysis was not performed because of the small number of respondents.

Table 14

Minutes of Daily Instruction before and after NCLB—Language Arts

	<i>Before NCLB: Minutes of Daily Instruction— Language Arts</i>							<i>After NCLB: Minutes of Daily Instruction — Language Arts</i>							<i>Chi-Square Analysis</i>	
	<45 % (n)	46-60 % (n)	61-75 % (n)	76-90 % (n)	91-100 % (n)	100+ % (n)	N	<45 % (n)	46-60 % (n)	61-75 % (n)	76-90 % (n)	91-100 % (n)	100+ % (n)	N	χ^2	p (χ^2)
K	9.1% (6)	25.8% (17)	10.6% (7)	31.8% (21)	7.6% (5)	15.2% (10)	66	5.7% (4)	35.7% (25)	14.3% (10)	31.4% (22)	7.1% (5)	5.7% (4)	70	31.33	0.00
1	2.9% (2)	23.5% (16)	13.2% (9)	35.3% (24)	8.8% (6)	16.2% (11)	68	2.8% (2)	32.4% (23)	21.1% (15)	31.9% (22)	7.0% (5)	5.6% (4)	71	31.33	0.00
2	4.5% (3)	22.7% (15)	16.7% (11)	31.8% (21)	7.6% (5)	16.7% (11)	66	2.8% (2)	31.0% (22)	22.5% (16)	29.6% (21)	8.5% (6)	5.6% (4)	71	26.71	0.00
3	2.9% (2)	25.7% (18)	20.0% (14)	24.3% (24)	7.1% (5)	10.0% (7)	70	0.0 (0)	33.3% (24)	27.8% (20)	29.2% (21)	5.6% (4)	4.2% (3)	72	26.07	0.00
4	2.9% (2)	30.4% (21)	20.3% (14)	29.0% (20)	10.1% (7)	7.2% (5)	69	0.0 (0)	36.6% (26)	29.6% (21)	26.8% (19)	5.6% (4)	1.4% (1)	71	21.27	0.00
5	2.9% (2)	27.9% (19)	20.6% (14)	30.9% (21)	10.1% (7)	7.4% (5)	68	0.0 (0)	35.7% (25)	34.3% (24)	22.9% (16)	5.7% (4)	1.4% (1)	70	20.30	0.00
6	5.3% (1)	31.6% (6)	15.8% (3)	31.6% (6)	10.5% (6)	5.3% (1)	19	0.0 (0)	33.3% (7)	33.3% (7)	23.8% (5)	4.8% (1)	4.8% (1)	21	*	*
Answered questions							75	Answered questions							78	
Skipped questions							3	Skipped questions							0	

*chi square and probability were not calculated for 6th grade because sample size was too small for reliable statistical calculations or significance.

Table 15

Minutes of Daily Instruction before and after NCLB—Mathematics

	<i>Before NCLB: Minutes of Daily Instruction— Mathematics</i>							<i>After NCLB: Minutes of Daily Instruction — Mathematics</i>							<i>Chi-Square Analysis</i>	
	<45 % (n)	46-60 % (n)	61-75 % (n)	76-90 % (n)	91-100 % (n)	100+ % (n)	N	<45 % (n)	46-60 % (n)	61-75 % (n)	76-90 % (n)	91-100 % (n)	100+ % (n)	N	χ^2	p (χ^2)
K	20.9% (14)	55.2% (37)	13.4% (9)	6.0% (4)	3.0% (2)	1.5% (1)	67	5.7% (4)	35.7% (25)	14.3% (10)	31.4% (22)	7.1% (5)	5.7% (4)	70	19.86	0.00
1	11.8% (8)	60.3% (41)	14.7% (10)	7.4% (5)	4.4% (3)	1.5% (1)	68	2.8% (2)	32.4% (23)	21.1% (15)	31.9% (22)	7.0% (5)	5.6% (4)	71	16.22	0.00
2	13.2% (9)	60.3% (41)	14.7% (10)	5.9% (4)	4.4% (3)	1.5% (1)	68	2.8% (2)	31.0% (22)	22.5% (16)	29.6% (21)	8.5% (6)	5.6% (4)	71	18.08	0.00
3	8.6% (6)	62.9% (44)	18.8% (13)	4.3% (3)	5.7% (4)	0.0 (0)	70	0.0 (0)	33.3% (24)	27.8% (20)	29.2% (21)	5.6% (4)	4.2% (3)	72	17.67	0.00
4	8.7% (6)	62.3% (43)	17.4% (12)	5.8% (4)	5.8% (4)	0.0 (0)	69	0.0 (0)	36.6% (26)	29.6% (21)	26.8% (19)	5.6% (4)	1.4% (1)	71	11.68	0.00
5	9.0% (6)	61.2% (41)	17.9% (12)	6.0% (4)	6.0% (4)	0.0 (0)	67	0.0 (0)	35.7% (25)	34.3% (24)	22.9% (16)	5.7% (4)	1.4% (1)	70	8.18	0.00
6	5.9% (1)	52.9% (9)	32.5% (4)	5.9% (1)	11.8% (2)	0.0 (0)	17	0.0 (0)	33.3% (7)	33.3% (7)	23.8% (5)	4.8% (1)	4.8% (1)	21	*	*
Answered questions							75	Answered questions							78	
Skipped questions							3	Skipped questions							0	

*chi square and probability were not calculated for 6th grade because sample size was too small for reliable statistical calculations or significance.

Table 16

Minutes of Daily Instruction before and after NCLB—Social Studies

	<i>Before NCLB: Minutes of Daily Instruction— Social Studies</i>							<i>After NCLB: Minutes of Daily Instruction — Social Studies</i>							<i>Chi-Square Analysis</i>	
	<45 % (n)	46-60 % (n)	61-75 % (n)	76-90 % (n)	91-100 % (n)	100 + % (n)	N	<45 % (n)	46-60 % (n)	61-75 % (n)	76-90 % (n)	91- 100 % (n)	100+ % (n)	N	χ^2	p (χ^2)
K	77.6% (52)	20.9% (14)	1.5% (1)	0.0 (0)	0.0 (0)	0.0 (0)	67	72.5% (50)	21.7% (15)	2.9% (2)	2.9% (3)	0.0 (0)	0.0 (0)	69	1.97	0.37
1	73.5% (50)	23.5% (16)	29.2% (2)	0.0 (0)	0.0 (0)	0.0 (0)	68	66.7% (46)	25.7% (19)	29.2% (2)	2.9% (3)	0.0 (0)	0.0 (0)	69	2.00	0.37
2	72.1% (49)	25.0% (17)	29.2% (2)	0.0 (0)	0.0 (0)	0.0 (0)	68	60.0% (42)	34.3% (24)	29.2% (2)	2.9% (3)	0.0 (0)	0.0 (0)	70	1.97	0.37
3	64.3% (45)	32.9% (23)	1.4% (1)	1.4% (1)	0.0 (0)	0.0 (0)	70	45.8% (33)	47.2% (34)	28.2% (2)	4.2% (3)	0.0 (0)	0.0 (0)	72	0.97	0.62
4	53.6% (37)	42.0% (29)	2.9% (2)	1.4% (1)	0.0 (0)	0.0 (0)	69	35.2% (25)	57.7% (41)	2.8% (2)	4.2% (3)	0.0 (0)	0.0 (0)	71	0.97	0.62
5	52.9% (36)	41.2% (28)	4.4% (3)	1.5% (1)	0.0 (0)	0.0 (0)	68	37.1% (26)	54.3% (38)	4.3% (3)	4.3% (3)	0.0 (0)	0.0 (0)	70	0.97	0.62
6	33.3% (6)	44.4% (8)	16.7% (3)	5.6% (1)	0.0 (0)	0.0 (0)	18	16.7% (3)	50.0% (9)	16.7% (3)	16.7% (3)	0.0 (0)	0.0 (0)	18	*	*
Answered questions							75	Answered questions							77	
Skipped questions							3	Skipped questions							1	

*chi square and probability were not calculated for 6th grade because sample size was too small for reliable statistical calculations or significance.

Table 17

Minutes of Daily Instruction before and after NCLB—Science

	<i>Before NCLB: Minutes of Daily Instruction— Science</i>							<i>After NCLB: Minutes of Daily Instruction — Science</i>							<i>Chi-Square Analysis</i>	
	<45 % (n)	46-60 % (n)	61-75 % (n)	76-90 % (n)	91-100 % (n)	100+ % (n)	N	<45 % (n)	46-60 % (n)	61-75 % (n)	76-90 % (n)	91- 100 % (n)	100+ % (n)	N	χ^2	p (χ^2)
K	79.1% (53)	19.4% (13)	1.5% (1)	0.0 (0)	0.0 (0)	0.0 (0)	6 7	74.3% (52)	20.0% (14)	43.3% (3)	1.4% (1)	0.0 (0)	0.0 (0)	70	0.96	0.62
1	75.0% (51)	22.1% (15)	2.9% (2)	0.0 (0)	0.0 (0)	0.0 (0)	6 8	70.4% (50)	23.9% (17)	42.3% (3)	1.4% (1)	0.0 (0)	0.0 (0)	71	0.96	0.62
2	75.0% (51)	22.1% (15)	2.9% (2)	0.0 (0)	0.0 (0)	0.0 (0)	6 8	60.6% (43)	33.8% (24)	42.3% (3)	1.4% (1)	0.0 (0)	0.0 (0)	71	0.96	0.62
3	68.6% (48)	27.1% (19)	2.9% (2)	1.4% (1)	0.0 (0)	0.0 (0)	7 0	47.9% (35)	46.6% (34)	2.7% (2)	2.7% (2)	0.0 (0)	0.0 (0)	73	0.30	0.86
4	57.4% (39)	39.7% (27)	1.5% (1)	1.5% (1)	0.0 (0)	0.0 (0)	6 8	43.1% (31)	50.0% (36)	42.3% (3)	2.8% (2)	0.0 (0)	0.0 (0)	72	0.28	0.87
5	55.2% (37)	38.8% (6)	4.5% (3)	1.5% (1)	0.0 (0)	0.0 (0)	6 7	38.6% (27)	52.9% (37)	5.7% (4)	2.9% (2)	0.0 (0)	0.0 (0)	70	0.30	0.86
6	44.4% (8)	44.4% (8)	5.6% (1)	5.6% (1)	0.0 (0)	0.0 (0)	1 8	22.2% (4)	38.9% (7)	22.2% (4)	16.7% (3)	0.0 (0)	0.0 (0)	18	*	*
Answered questions							7	Answered questions							78	
Skipped questions							5	Skipped questions							0	
							3									

*chi square and probability were not calculated for 6th grade because sample size was too small for reliable statistical calculations or significance.

Table 18

Minutes of Daily Instruction before and after NCLB—Music

	<i>Before NCLB: Minutes of Daily Instruction— Science</i>							<i>After NCLB: Minutes of Daily Instruction — Science</i>							<i>Chi-Square Analysis</i>	
	<45 % (n)	46-60 % (n)	61-75 % (n)	76-90 % (n)	91-100 % (n)	100+ % (n)	N	<45 % (n)	46-60 % (n)	61-75 % (n)	76-90 % (n)	91-100 % (n)	100+ % (n)	N	χ^2	p (χ^2)
K	93.8 % (60)	3.1% (2)	3.1% (2)	0.0 (0)	0.0 (0)	0.0 (0)	64	87.9 % (58)	9.1% (6)	0.0 (0)	1.5% (1)	0.0 (0)	1.5% (1)	66	1.97	0.37
1	92.4 % (61)	3.0% (2)	4.5% (3)	0.0 (0)	0.0 (0)	0.0 (0)	66	87.7 % (61)	7.4% (5)	0.0 (0)	1.5% (1)	0.0 (0)	1.5% (1)	68	2.00	0.37
2	92.3 % (60)	3.1% (2)	4.6% (3)	0.0 (0)	0.0 (0)	0.0 (0)	65	89.7 % (61)	7.4% (5)	0.0 (0)	1.5% (1)	0.0 (0)	1.5% (1)	68	1.94	0.38
3	88.2 % (60)	7.4% (5)	4.4% (3)	0.0 (0)	0.0 (0)	0.0 (0)	68	87.1 % (61)	10.0 % (7)	0.0 (0)	1.4% (1)	0.0 (0)	1.4% (1)	70	1.97	0.37
4	86.6 % (58)	9.0% (6)	4.5% (3)	0.0 (0)	0.0 (0)	0.0 (0)	67	86.8 % (59)	10.3 % (7)	0.0 (0)	1.5% (1)	0.0 (0)	1.5% (1)	68	2.00	0.37
5	85.9 % (55)	9.4% (6)	4.7% (3)	0.0 (0)	0.0 (0)	0.0 (0)	64	85.1 % (57)	11.9 % (8)	0.0 (0)	1.5% (1)	0.0 (0)	1.5% (1)	67	1.94	0.28
6	81.0 % (17)	0.0 (0)	19.0 % (4)	0.0 (0)	0.0 (0)	0.0 (0)	21	68.4 % (13)	21.1 % (4)	0.0 (0)	5.3% (1)	0.0 (0)	5.3% (1)	19	*	*
Answered questions							73	Answered questions							75	
Skipped questions							5	Skipped questions							3	

*chi square and probability were not calculated for 6th grade because sample size was too small for reliable statistical calculations or significance.

Table 19

Minutes of Daily Instruction before and after NCLB—Art

	<i>Before NCLB: Minutes of Daily Instruction—Art</i>							<i>After NCLB: Minutes of Daily Instruction —Art</i>							<i>Chi-Square Analysis</i>	
	<45 % (n)	46-60 % (n)	61-75 % (n)	76-90 % (n)	91-100 % (n)	100+ % (n)	N	<45 % (n)	46-60 % (n)	61-75 % (n)	76-90 % (n)	91-100 % (n)	100+ % (n)	N	χ^2	p (χ^2)
K	90.5 % (57)	63.4 % (7)	3.2% (2)	0.0 (0)	0.0 (0)	0.0 (0)	63	87.9% (58)	10.6% (7)	1.5% (1)	0.0 (0)	0.0 (0)	0.0 (0)	66	0.96	0.62
1	87.7 % (57)	7.7% (5)	4.6% (3)	0.0 (0)	0.0 (0)	0.0 (0)	65	89.7% (61)	8.8% (6)	1.5% (1)	0.0 (0)	0.0 (0)	0.0 (0)	68	0.96	0.62
2	87.7 % (57)	7.7% (5)	4.6% (3)	0.0 (0)	0.0 (0)	0.0 (0)	65	89.7% (61)	8.8% (6)	1.5% (1)	0.0 (0)	0.0 (0)	0.0 (0)	68	0.96	0.62
3	86.4 % (57)	9.6% (6)	4.5% (3)	0.0 (0)	0.0 (0)	0.0 (0)	66	85.5% (59)	11.6% (8)	1.4% (1)	0.0 (0)	0.0 (0)	0.0 (0)	69	0.96	0.62
4	84.8 % (56)	10.6 % (7)	4.5% (3)	0.0 (0)	0.0 (0)	0.0 (0)	66	85.5% (59)	11.6% (8)	2.9% (2)	0.0 (0)	0.0 (0)	0.0 (0)	69	1.91	0.38
5	85.9 % (55)	9.4% (6)	4.7% (3)	0.0 (0)	0.0 (0)	0.0 (0)	64	86.8% (59)	10.3% (6)	2.9% (2)	0.0 (0)	0.0 (0)	0.0 (0)	68	1.91	0.38
6	82.4 % (14)	5.9% (1)	11.8 % (2)	0.0 (0)	0.0 (0)	0.0 (0)	17	81.3% (13)	6.3% (1)	12.5 % (2)	0.0 (0)	0.0 (0)	0.0 (0)	16	*	*
Answered questions							72	Answered questions							75	
Skipped questions							6	Skipped questions							3	

*chi square and probability were not calculated for 6th grade because sample size was too small for reliable statistical calculations or significance.

Table 20

Minutes of Daily Instruction before and after NCLB—Physical Education

	<i>Before NCLB: Minutes of Daily Instruction— Physical Education</i>							<i>After NCLB: Minutes of Daily Instruction — Physical Education</i>							<i>Chi-Square Analysis</i>	
	<45 % (n)	46-60 % (n)	61-75 % (n)	76-90 % (n)	91-100 % (n)	100+ % (n)	N	<45 % (n)	46-60 % (n)	61-75 % (n)	76-90 % (n)	91-100 % (n)	100+ % (n)	N	χ^2	p (χ^2)
K	92.2 % (59)	4.7% (3)	3.1% (2)	0.0 (0)	0.0 (0)	0.0 (0)	64	81.8% (54)	13.6% (9)	0.0 (0)	3.0% (2)	1.5% (1)	0.0 (0)	66	2.98	0.23
1	90.9 % (60)	4.5% (3)	4.5% (3)	0.0 (0)	0.0 (0)	0.0 (0)	66	82.4% (56)	13.2% (9)	0.0 (0)	2.9% (2)	1.5% (1)	0.0 (0)	68	2.98	0.23
2	90.9 % (60)	4.5% (3)	4.5% (3)	0.0 (0)	0.0 (0)	0.0 (0)	66	82.4% (56)	13.2% (9)	0.0 (0)	2.9% (2)	1.5% (1)	0.0 (0)	68	2.98	0.23
3	89.7 % (61)	4.9% (4)	4.4% (3)	0.0 (0)	0.0 (0)	0.0 (0)	68	80.0% (56)	15.7% (11)	0.0 (0)	2.9% (2)	1.4% (1)	0.0 (0)	70	2.98	0.23
4	88.1 % (59)	7.5% (5)	4.5% (3)	0.0 (0)	0.0 (0)	0.0 (0)	67	84.1% (58)	13.0% (9)	0.0 (0)	2.9% (2)	0.0 (0)	0.0 (0)	69	1.97	0.37
5	87.9 % (58)	7.6% (5)	4.5% (3)	0.0 (0)	0.0 (0)	0.0 (0)	66	84.8% (56)	12.1% (8)	0.0 (0)	3.0% (2)	0.0 (0)	0.0 (0)	66	2.03	0.36
6	90.0 % (18)	0.0 (0)	10.0% (2)	0.0 (0)	0.0 (0)	0.0 (0)	20	83.3% (15)	11.9% (2)	0.0 (0)	5.6% (1)	0.0 (0)	0.0 (0)	18	*	*
Answered questions							73	Answered questions							75	
Skipped questions							5	Skipped questions							3	

*chi square and probability were not calculated for 6th grade because sample size was too small for reliable statistical calculations or significance.

Analysis of Trends

A chi square (X^2) statistic is used to investigate whether distributions of categorical variables differ from one another. The chi-square statistic compares the tallies or counts of categorical responses between two (or more) independent groups. For the test to be significant at the 0.05 level with 2 degrees of freedom, for the purposes of this study, the value for χ^2 has to be at least 5.99 and the probability of chi-square has to be 0.00. The hypothesis (H_a), of this study is that changes in elementary schedules, over the past 5 years, are associated with the implementation of the mandates of NCLB. The null hypothesis (H_o) is that changes in elementary schedules, over the past 5 years, are not associated with the implementation of the mandates of NCLB.

The chi-square test was performed for all subject areas at all grade levels, except the sixth grade which had too few responses for statistical analysis. The chi-square tests for reading and language arts, kindergarten through fifth grade, indicate a statistically significant shift in time allocations at all of those levels. The greatest change in time was the allocation of <75 minutes before NCLB to 76-90⁺ minutes after NCLB. Therefore, the null hypothesis (H_o) (changes in elementary schedules over the past 5 years are not associated with the implementation of the mandates of NCLB) is rejected.

The chi-square tests for mathematics, kindergarten through fifth grade, indicate a statistically significant shift in time allocations at all of those levels. The greatest change in time was the allocation of <75 minutes before NCLB to 76-90⁺ minutes after NCLB. Therefore, the null hypothesis (H_o) (changes in elementary schedules over the past 5 years are not associated with the implementation of the mandates of NCLB) is rejected.

The chi-square tests for social studies, science, music, art, and physical education indicate shifts in time allocations at all levels. Directionally, it seems that NCLB is associated with decreases in the allocated time for these subject areas, but the results are not statistically significant at the 0.05 significance level. Therefore, since the two time distributions are statistically equivalent, the null hypothesis (H_o) (changes in elementary schedules over the past 5 years are not associated with the implementation of the mandates of NCLB) is confirmed.

One of the four pillars of the NCLB Act is stronger accountability for results. Statewide accountability systems are required to cover all public schools and students. These systems must

be based on challenging State standards in reading and mathematics, annual testing for all students in grades 3-8, and annual statewide progress objectives ensuring that all groups of students reach proficiency within 12 years. Assessment results and State progress objectives must be broken out by poverty, ethnicity, disability, race, and limited English proficiency to ensure that no group is left behind (Executive Summary NCLB Act, 2001).

In order to accomplish this aspect of the mandate, elementary schools have restructured the school day and reallocated time. Increased learning time for reading/language arts and mathematics appears to have been achieved by limiting time for instruction in those areas not specified by the mandate as areas where the achievement gap needs to be closed.

Summary of Chi-Square Analyses

The chi-square statistics, the predetermined alpha level of significance (0.05) and the degrees of freedom ($df=2$) determined the corresponding probability of each set of data. The original hypothesis, (H_a), of this study is that changes in elementary schedules are associated with the implementation of NCLB mandates over 5 years ago. The null hypothesis (H_o) is that changes in elementary schedules are not associated with the implementation of NCLB over 5 years ago. The null hypothesis was rejected for changes in instructional minutes allotted to reading/language arts and mathematics, kindergarten through fifth grade. The data failed to reject the null hypothesis, (H_o), for the subject areas of social studies, science, music, art, and physical education. It is evident that an indirect correlation exists between the minutes allotted to these five subjects prior to NCLB and the teaching minutes currently allotted since the passage of NCLB. The question is how were the extra teaching minutes obtained for extending the teaching time of reading and language arts and mathematics. In the absence of any lengthening of the school day or school year, the inference can be made that they were extracted from time allocated during the day for other disciplines. However, the results are not statistically significant to reject the null hypothesis (H_o) or to accept the alternate hypothesis (H_a).

Analysis of Scheduling Practices

The final section of the findings will be analyzed using the research questions:

1. What are the characteristics of the scheduling practices currently being implemented in elementary schools?

2. How have these practices changed over the last five years?
3. What are the reasons for these changes?

Characteristics of the Scheduling Alternative Practices

Survey participants were asked to indicate which of three types of elementary school alternative scheduling practices identified in the research literature were characteristic of the instructional delivery model currently in place in their schools. The descriptions of the alternative scheduling practices given to respondents are:

Parallel Block Schedule: scheduling students in order to reduce class size, increase instructional time, and reduce the effects of pull-out programs.

Specific Time Allocation Model: scheduling large blocks of uninterrupted instructional time, specifically for reading and mathematics, with consistent daily time periods for instruction.

Modified Block Schedule: scheduling specific blocks of learning time throughout the day with central components being teacher teams, clusters of students, and designed times to plan and learn.

Other Schedules: scheduling students in any other method to provide large blocks of instructional time by reorganizing the school day and/or calendar to provide more continuous learning. Please describe those characteristics.

The largest proportion of respondents, 41.3%, characterized their alternative scheduling practice as a specific time allocation model, as shown in Figure 4. Some type of modified block is used in 28.8% of the schools and 26.3% utilize a parallel block schedule. Three of the survey schools, 3.8% listed other schedules as their instructional delivery models. Those characteristics are described as:

1. a year round calendar;
2. parallel block for 2nd through 5th grade reading, departmentalization for 3rd through 5th grades with a rotation the remainder of the day; common planning time for Standards Of Learning core teachers to plan and meet with parents; and
3. a combination of a parallel block schedule and specific time allocation – by creating a highly structured schedule, uninterrupted time is provided in reading and mathematics, while maintaining full inclusion for special education (SPED) and

English speakers of other language (ESOL) students, with instruction being provided by a licensed resource teacher (SPED or ESOL) in a co-teaching role for all periods of reading and mathematics, grades first through fifth.

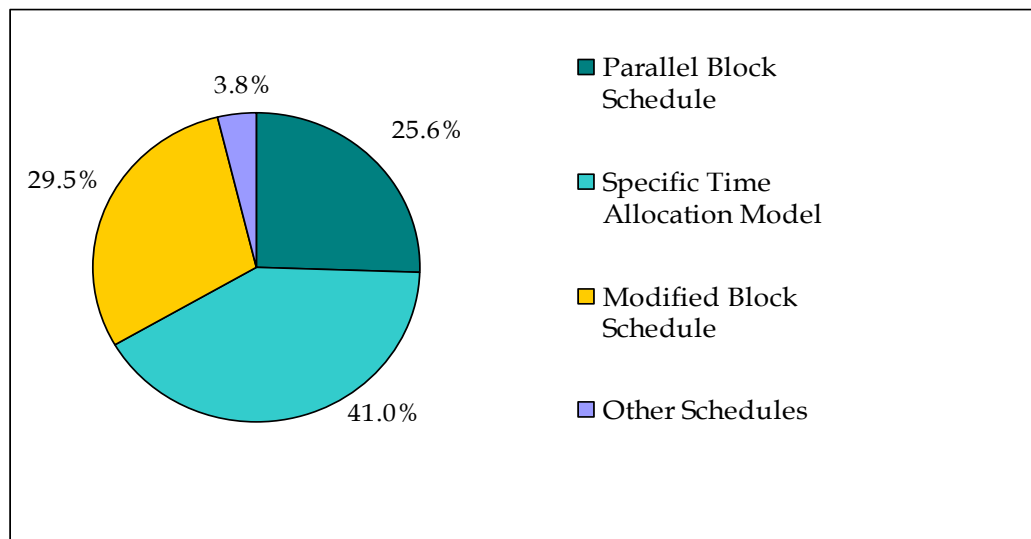


Figure 4. Alternative scheduling practices.

One theory regarding the passing of NCLB espouses that invariably the mandates associated with the Act would affect school schedules. In order to meet federal, state, and local mandates, changes in scheduling were inevitable in order to close the achievement gaps among subgroups. According to Klein (2007), the gaps between the average National Assessment of Educational Progress (NAEP) scores of white students and those of children of color have widened. It is interesting to note that 35.9% of the respondents had implemented alternative models for time allotted to teaching and learning 5 years or more prior to the change movement. That is illustrated in Figure 5.

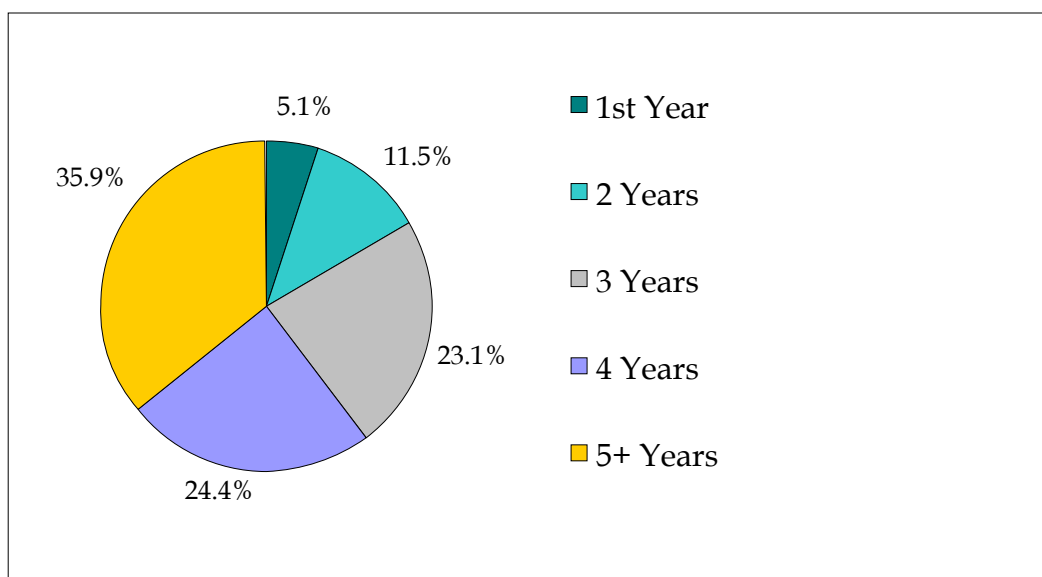


Figure 5. Years of alternative schedule.

Grade configurations and student enrollment, as evidenced by some of the qualitative data in this study can affect student movement, class size and space, staffing decisions, planning time for teachers, and the ability to provide time for intervention and remediation during the school day. The majority of the schools surveyed, 49.4% begin with Pre-kindergarten and end with fifth grade, 78.7%. In 40.3% of the schools, kindergarten was the grade of entry and sixth grade was the exiting grade in only 10.7 % of the schools. Figures 6 and 7 depict data regarding grade configuration of the respondents' schools.

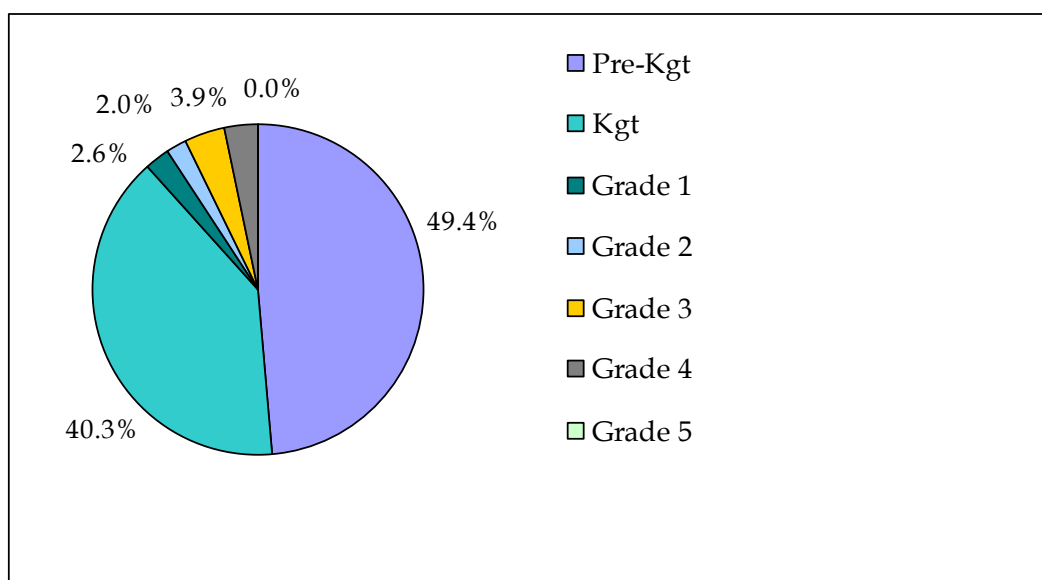


Figure 6. Lowest grade in school.

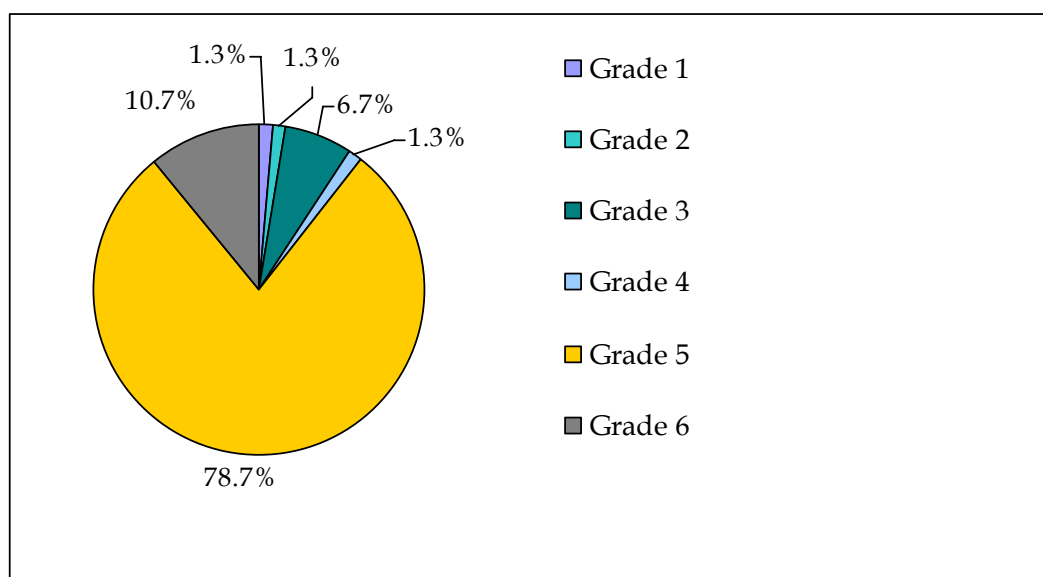


Figure 7. Highest grade in school.

Changing the structure of the day to extend learning opportunities requires that administrators and teachers have a firm commitment and clear understanding of the educational resources and processes of time. Two components of successful practices regarding use of time include: (a) careful design and planning, and (b) adequate staff preparation and training.

Planning time for all teachers – K-6 Core teachers, special education teachers, specialists (art, music, PE) and Intervention Specialists (Reading, ELL) to collaborate as individuals, teams, clusters, departments across and within grade levels is critical to the continuity of instruction. Canady and Rettig (1993) suggest that although principals are definitely the change agents in schools, they cannot effect any lasting change without sufficient staff preparation and orientation. A schedule change can be of such significance that will be accompanied by frustration and stress. The focus has to be on facilitating and creating appropriate scheduling solutions that meet the unique needs of each school, each child, and each teacher. The following figures represent the total number of minutes of unencumbered planning time for teachers currently in place in the surveyed schools:

Figure 8 – K-6 Core teachers;

Figure 9 – Special Education;

Figure 10 – Specialists; and

Figure 11 – Intervention Specialists

The one limitation of this data is there are no comparable data reflecting minutes allotted for planning time prior to NCLB. For all teacher groups, 41-45 minutes of daily unencumbered planning time was the consistent allotment.

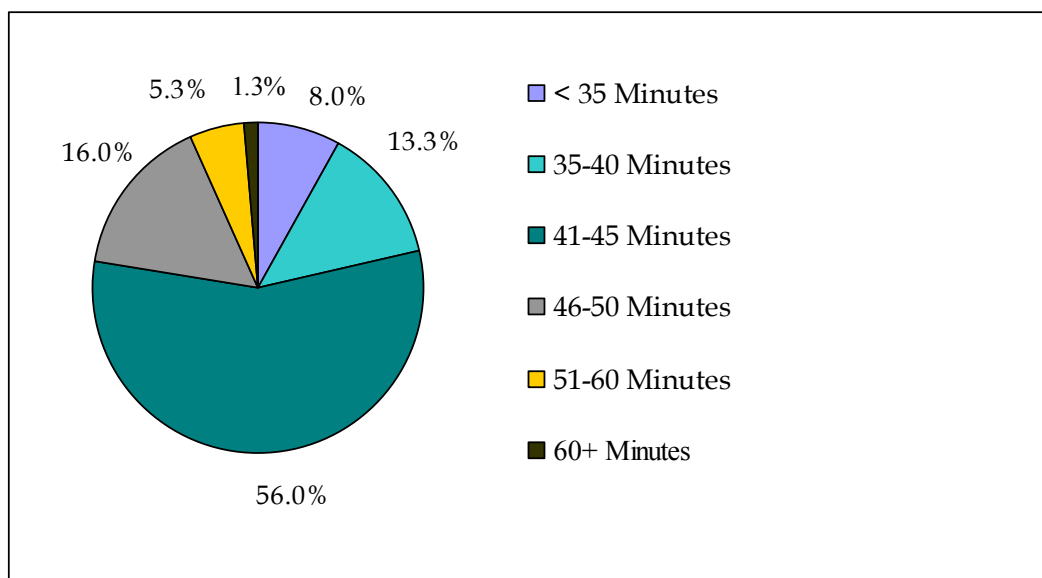


Figure 8. Total daily minutes of unencumbered planning time for K-6 core teachers.

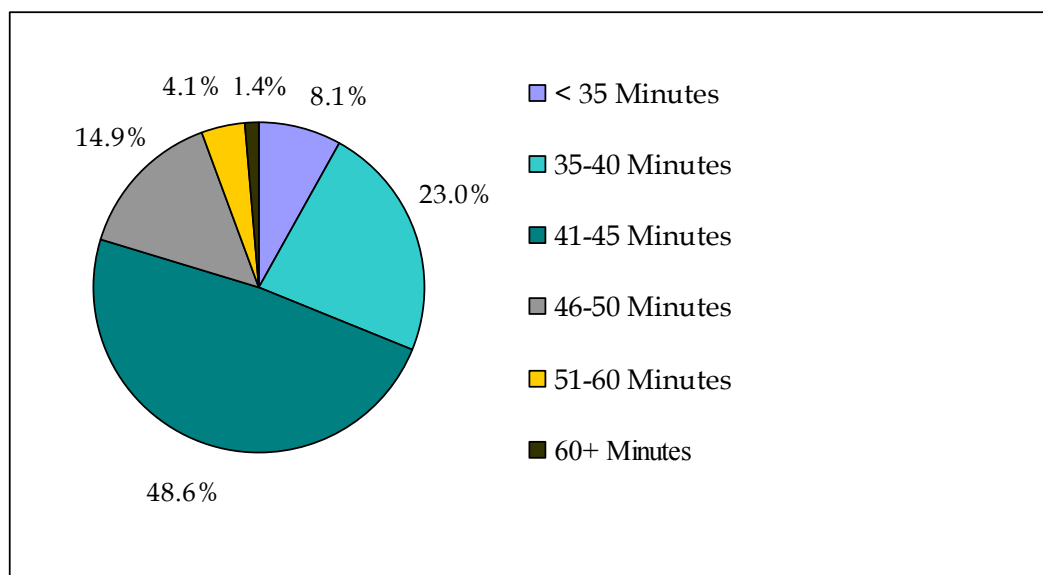


Figure 9. Total daily minutes of unencumbered planning time for special education teachers.

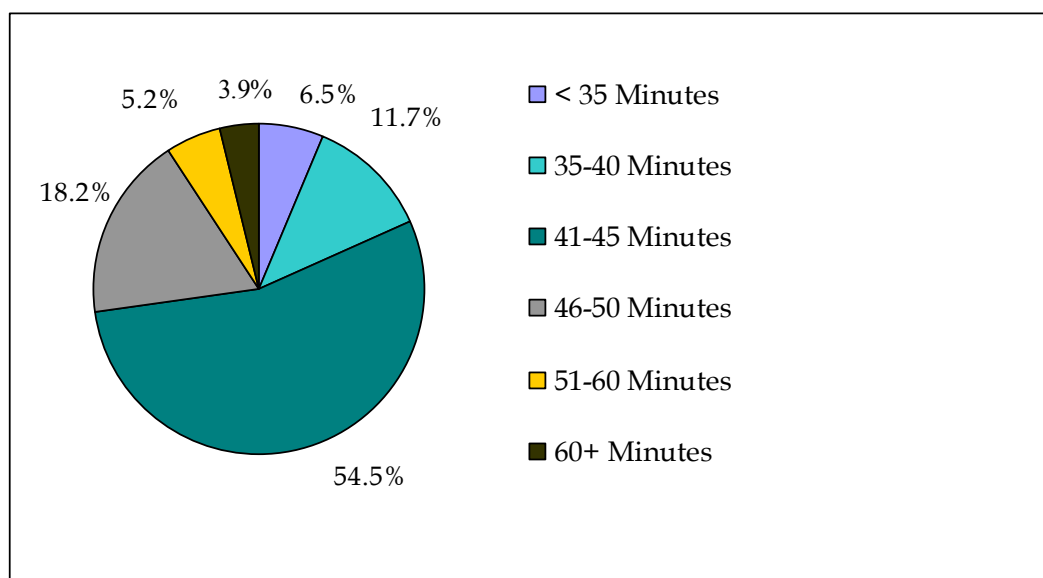


Figure 10. Total daily minutes of unencumbered planning time for specialists.

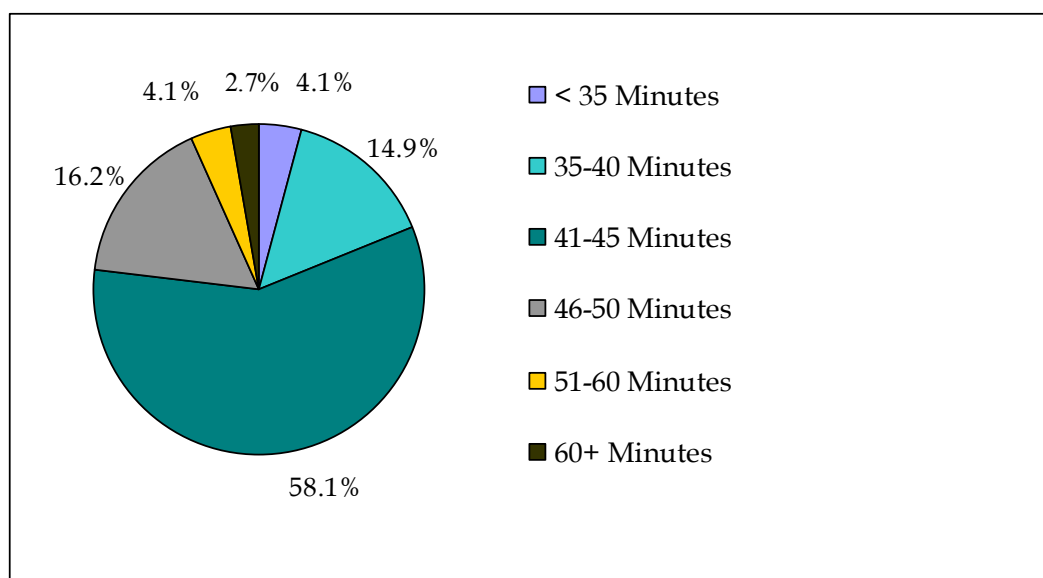


Figure 11. Total daily minutes of unencumbered planning time for intervention specialists.

Changes in Elementary Scheduling Practices over the Last 5 Years

Since the implementation of NCLB, there has been an increase in the number of daily instructional minutes spent on teaching reading and language arts and mathematics across all grade levels, kindergarten through fifth grade. The majority of the schools surveyed currently average 91 minutes or more of instruction in reading/language arts as compared to the highest range of 61-75 minutes 5 years ago. Mathematics instruction accounts for 76 or more minutes of the day as compared to the highest range of 46-60 minutes five years ago. There has been a minimal increase in time allotted to teaching social studies and science from <45 minutes 5 years ago to 46-60 minutes currently. There appears to be statistically insignificant reallocation of minutes in the time allotted for music, art and physical education, and while it is possible to infer some decreases, the data failed to reject the null hypothesis (H_0) for these subjects.

The following tables indicate the number of minutes allocated for each subject area, before and after NCLB, for grades kindergarten through sixth and the shifts in the time allocation category that have occurred over the past 5 years. Tables 21 through 34 depict the shifts in instructional time for reading and language arts, mathematics, social studies, science, music, art, and physical education.

Table 21

Minutes Allocated for Reading and Language Arts Before and After NCLB

Before NCLB: Daily Minutes Allocated for Reading & Language Arts												After NCLB: Daily Minutes Allocated for Reading & Language Arts													
	<45		46-60		61-75		76-90		91-100		100+			<45		46-60		61-75		76-90		91-100		100+	
	N	%	N	%	N	%	N	%	N	%	N	%		N	%	N	%	N	%	N	%	N	%	N	%
K	6	9.1	17	25.8	7	10.6	21	31.8	5	7.6	10	15.2	2	2.9	1	1.4	5	7.1	14	20.0	16	22.9	32	45.7	
1	2	2.9	1	23.5	9	13.2	24	35.5	6	8.8	11	16.2	1	1.4	1	1.4	5	7.0	16	22.5	14	19.7	34	47.9	
2	3	4.5	1	22.7	11	16.7	21	31.8	5	7.6	11	16.7	1	1.4	1	1.4	6	8.5	17	23.9	15	21.1	31	43.7	
3	2	2.9	3	25.7	14	20.0	24	34.3	5	7.1	7	10.0	0	0.0	3	1.4	5	7.0	31	43.7	14	19.7	18	25.4	
4	2	2.9	5	30.4	14	20.3	20	29.0	7	10.1	5	7.2	0	0.0	5	4.2	7	9.7	36	50.0	12	16.7	12	16.7	
5	2	2.9	4	27.9	14	20.6	21	30.9	7	10.3	5	7.4	0	0.0	4	6.9	8	11.4	35	50.0	11	15.7	12	17.1	
6	1	5.3	1	31.6	3	15.8	6	31.6	2	10.5	1	5.3	056	0.0	1	5.7	3	16.7	6	33.3	2	11.1	6	33.3	

Table 22

Reading and Language Arts Shift in Allocation Category- Five Years Ago to Current

Grade		Shift in Allocation Category – Five Years Ago to Current											
		0		1		2		3		4		5	
		N	%	N	%	N	%	N	%	N	%	N	%
K		31	40.79	11	14.47	18	23.68	10	13.16	5	6.58	1	1.32
1		32	42.11	12	15.79	20	26.32	6	7.89	6	7.89	0	0.00
2		32	42.67	13	17.33	17	22.67	6	8.00	6	8.00	1	1.33
3		30	41.10	11	15.07	24	32.88	4	4.11	3	4.11	1	1.37
4		36	48.65	11	14.86	20	27.03	3	4.04	3	4.05	1	1.35
5		37	49.33	12	16.00	19	25.33	3	5.33	4	5.33	0	0.00
6		66	86.71	5	6.49	3	3.90	1	2.60	2	2.60	0	0.00

Table 23

Minutes Allocated for Mathematics Before and After NCLB

Before NCLB: Daily Minutes Allocated for Mathematics													After NCLB: Daily Minutes Allocated for Mathematics												
	<45		46-60		61-75		76-90		91-100		100+			<45		46-60		61-75		76-90		91-100		100+	
	N	%	N	%	N	%	N	%	N	%	N	%		N	%	N	%	N	%	N	%	N	%	N	%
K	14	20.9	37	55.2	9	13.4	4	6.0	2	3.0	1	1.5	2	2.9	1	1.4	5	7.1	14	20.0	16	22.9	32	45.7	
1	8	11.8	41	60.3	10	14.7	5	7.4	3	4.4	1	1.5	1	1.4	1	1.4	5	7.0	16	22.5	14	19.7	34	47.9	
2	9	13.2	41	60.3	10	14.7	4	5.9	3	4.4	1	1.5	1	1.4	1	1.4	6	8.5	17	23.9	15	21.1	31	43.7	
3	6	8.6	44	62.9	13	18.6	3	4.3	4	5.7	0	0.0	0	0.0	3	1.4	5	7.0	31	43.7	14	19.7	18	25.4	
4	6	8.7	43	62.3	12	17.4	4	5.8	4	5.8	0	0.0	0.00	0.0	5	4.2	7	9.7	36	50.0	12	16.7	12	16.7	
5	6	9.0	41	61.2	12	17.9	4	6.0	4	6.0	0	0.0	0.0	0.0	4	6.9	8	11.4	35	50.0	11	15.7	12	17.1	
6	1	5.9	9	52.9	4	23.5	1	11.8	2	11.8	0	0.0	0.0	0.0	1	5.7	3	16.7	6	33.3	2	11.1	6	33.3	

Table 24

Mathematics Shift in Allocation Category- Five Years Ago to Current

Grade		Shift in Allocation Category – Five Years Ago to Current											
		0		1		2		3		4		5	
	N	%	N	%	N	%	N	%	N	%	N	%	
K	32	42.67	19	25.33	14	18.67	6	8.00	4	5.33	0	0.00	
1	34	45.33	19	25.33	14	18.67	4	5.33	4	5.33	0	0.00	
2	33	43.42	20	26.32	14	18.42	5	6.85	4	5.26	0	0.00	
3	34	44.74	21	27.63	16	21.05	2	2.63	3	3.95	0	0.00	
4	38	50.67	21	28.00	11	14.67	3	4.00	2	2.67	0	0.00	
5	39	52.00	22	29.33	8	10.67	4	5.33	2	2.67	0	0.00	
6	66	84.62	5	6.41	3	3.85	3	3.85	1	1.28	0	0.00	

Table 25

Minutes Allocated for Social Studies Before and After NCLB

Before NCLB: Daily Minutes Allocated for Social Studies													After NCLB: Daily Minutes Allocated for Social Studies												
	<45		46-60		61-75		76-90		91-100		100+			<45		46-60		61-75		76-90		91-100		100+	
<i>K</i>	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	
<i>1</i>	52	77.6	14	20.9	1	1.5	0	0	0	0.00	0	0.00	50	72.5	15	21.7	2	2.9	2	2.9	0	0.00	0	0.00	
<i>2</i>	50	73.5	16	23.5	2	2.9	0	0	0	0.00	0	0.00	46	66.7	19	27.5	2	2.9	2	2.9	0	0.00	0	0.00	
<i>3</i>	49	72.1	17	25.0	2	2.9	0	0	0	0.00	0	0.00	42	60.0	24	34.3	2	2.9	2	2.9	0	0.00	0	0.00	
<i>4</i>	45	64.3	23	32.9	1	1.4	1	1.4	0	0.00	0	0.00	33	45.8	34	47.2	2	4.2	3	4.2	0	0.00	0	0.00	
<i>5</i>	37	53.6	29	42.0	2	2.9	1	1.4	0	0.00	0	0.00	25	35.2	41	57.7	2	4.2	3	4.2	0	0.00	0	0.00	
<i>6</i>	36	52.9	28	41.2	3	4.4	1	1.5	0	0.00	0	0.00	26	37.1	38	54.3	2	4.3	3	4.3	0	0.00	0	0.00	
<i>7</i>	6	33.3	8	44.4	3	16.7	1	5.6	0	0.00	0	0.00	3	16.7	9	50.0	2	16.7	3	16.7	0	0.00	0	0.00	

Table 26

Social Studies Shift in Allocation Category- Five Years Ago to Current

Grade	Shift in Allocation Category – Five Years Ago to Current											
	0		1		2		3		4		5	
	N	%	N	%	N	%	N	%	N	%	N	%
K	59	81.94	10	13.89	1	1.39	2	2.78	0	0.00	0	0.00
1	56	78.87	13	18.31	1	1.41	1	1.41	0	0.00	0	0.00
2	53	73.61	17	23.61	1	1.39	1	1.39	0	0.00	0	0.00
3	47	65.28	23	31.94	1	1.39	1	1.39	0	0.00	0	0.00
4	46	64.79	23	32.39	1	1.41	1	1.41	0	0.00	0	0.00
5	46	65.71	22	31.43	1	1.43	1	1.43	0	0.00	0	0.00
6	70	90.91	4	5.19	2	2.60	1	1.30	0	0.00	0	0.00

Table 27

Minutes Allocated for Science Before and After NCLB

Before NCLB: Daily Minutes Allocated for Science													After NCLB: Daily Minutes Allocated for Science												
	<45		46-60		61-75		76-90		91-100		100+			<45		46-60		61-75		76-90		91-100		100+	
	N	%	N	%	N	%	N	%	N	%	N	%		N	%	N	%	N	%	N	%	N	%	N	%
K	53	79.1	13	19.4	1	1.5	0	0.0	0	0.0	0	0.0	52	74.3	14	20.0	3	4.3	1	1.4	0	0.00	0	0.00	
1	51	75.0	15	22.1	2	2.9	0	0.0	0	0.0	0	0.0	50	70.4	17	23.9	3	4.2	1	1.4	0	0.00	0	0.00	
2	51	75.0	15	22.1	2	2.9	0	0.0	0	0.0	0	0.0	43	60.6	24	33.8	3	4.2	1	1.4	0	0.00	0	0.00	
3	48	68.6	19	27.1	2	2.9	1	1.4	0	0.0	0	0.0	35	47.9	34	46.6	2	2.7	2	2.7	0	0.00	0	0.00	
4	39	57.4	27	39.7	1	1.5	1	1.5	0	0.0	0	0.0	31	43.1	36	50.0	3	4.2	2	2.8	0	0.00	0	0.00	
5	37	55.2	26	38.8	3	4.5	1	1.5	0	0.0	0	0.0	27	38.6	37	52.9	4	5.7	2	2.9	0	0.00	0	0.00	
6	8	44.4	8	44.4	1	5.6	1	5.8	0	0.0	0	0.0	4	22.2	7	38.9	4	22.2	3	16.7	0	0.00	0	0.00	

Table 28

Science Shift in Allocation Category- Five Years Ago to Current

Grade	Shift in Allocation Category – Five Years Ago to Current											
	0		1		2		3		4		5	
	N	%	N	%	N	%	N	%	N	%	N	%
K	57	79.17	12	16.67	2	2.78	1	1.39	0	0.00	0	0.00
1	55	77.46	14	19.72	1	1.41	1	1.41	0	0.00	0	0.00
2	48	67.61	21	29.58	1	1.41	1	1.41	0	0.00	0	0.00
3	42	60.00	26	37.14	1	1.43	1	1.43	0	0.00	0	0.00
4	45	64.29	22	31.43	1	1.43	2	2.86	0	0.00	0	0.00
5	47	66.20	21	29.58	2	2.82	1	1.41	0	0.00	0	0.00
6	71	91.03	3	3.85	2	2.56	2	2.56	0	0.00	0	0.00

Table 29

Minutes Allocated for Music Before and After NCLB

Before NCLB: Daily Minutes Allocated for Music													After NCLB: Daily Minutes Allocated for Music																				
		<45		46-60		61-75		76-90		91-100		100+				<45		46-60		61-75		76-90		91-100		100+							
K	I	2	3	4	5	6	N	%	N	%	N	%	N	%	58	61	61	61	61	59	57	13	N	%	N	%	N	%	N	%	N	%	
																													</				

Table 30

Music Shift in Allocation Category- Five Years Ago to Current

Grade		Shift in Allocation Category – Five Years Ago to Current											
		0		1		2		3		4		5	
	N	%	N	%	N	%	N	%	N	%	N	%	
K	67	88.16	7	9.21	0	0.00	1	1.32	0	0.00	1	1.32	
1	68	90.67	5	6.67	0	0.00	1	1.33	0	0.00	1	1.33	
2	67	89.33	6	8.00	0	0.00	1	1.33	0	0.00	1	1.33	
3	67	90.54	5	6.76	0	0.00	1	1.35	0	0.00	1	1.35	
4	67	91.78	4	5.48	0	0.00	1	1.37	0	0.00	1	1.37	
5	64	87.67	7	9.59	0	0.00	1	1.37	0	0.00	1	1.37	
6	63	90.00	4	5.71	1	1.43	1	1.43	0	0.00	1	1.43	

Table 31

Minutes Allocated for Art Before and After NCLB

Before NCLB: Daily Minutes Allocated for Art													After NCLB: Daily Minutes Allocated for Art															
		<45		46-60		61-75		76-90		91-100		100+				<45		46-60		61-75		76-90		91-100		100+		
<i>K</i> <i>1</i> <i>2</i> <i>3</i> <i>4</i> <i>5</i> <i>6</i>	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
	57	90.5	4	6.3	0	0.00	0	0.00	0	0.00	0	0.00	58	87.9	7	10.6	0	0.00	1	1.5	0	0.00	0	0.00	0	0.00	0	0.00
	57	87.7	5	7.7	0	0.00	0	0.00	0	0.00	0	0.00	61	89.7	6	8.8	0	0.00	1	1.5	0	0.00	0	0.00	0	0.00	0	0.00
	57	87.7	5	7.7	0	0.00	0	0.00	0	0.00	0	0.00	61	89.7	6	8.8	0	0.00	1	1.5	0	0.00	0	0.00	0	0.00	0	0.00
	57	86.4	6	9.1	0	0.00	0	0.00	0	0.00	0	0.00	59	85.9	8	11.6	0	0.00	1	1.4	0	0.00	0	0.00	0	0.00	0	0.00
	56	84.8	7	10.6	0	0.00	0	0.00	0	0.00	0	0.00	59	85.5	8	11.6	0	0.00	2	2.9	0	0.00	0	0.00	0	0.00	0	0.00
	55	95.9	6	9.4	0	0.00	0	0.00	0	0.00	0	0.00	59	86.8	7	10.3	0	0.00	2	2.9	0	0.00	0	0.00	0	0.00	0	0.00
	14	82.4	1	5.9	0	0.00	0	0.00	0	0.00	0	0.00	13	81.3	1	6.3	0	0.00	2	12.5	0	0.00	0	0.00	0	0.00	0	0.00

Table 32

Art Shift in Allocation Category- Five Years Ago to Current

Grade		Shift in Allocation Category – Five Years Ago to Current											
		0		1		2		3		4		5	
	N	%	N	%	N	%	N	%	N	%	N	%	
K	68	89.47	7	9.21	0	0.00	1	1.32	0	0.00	0	0.00	
1	66	90.41	6	8.22	0	0.00	1	1.37	0	0.00	0	0.00	
2	66	90.41	6	8.22	0	0.00	1	1.37	0	0.00	0	0.00	
3	61	84.72	10	13.89	0	0.00	1	1.39	0	0.00	0	0.00	
4	64	87.67	7	9.59	1	1.37	1	1.37	0	0.00	0	0.00	
5	65	87.84	7	9.46	1	1.35	1	1.35	0	0.00	0	0.00	
6	72	94.74	2	2.63	1	1.32	1	1.32	0	0.00	0	0.00	

Table 33

Minutes Allocated for Physical Education Before and After NCLB

Before NCLB: Daily Minutes Allocated for Physical Education													After NCLB: Daily Minutes Allocated for Physical Education														
		<45		46-60		61-75		76-90		91-100		100+				<45		46-60		61-75		76-90		91-100		100+	
<i>K</i> <i>1</i> <i>2</i> <i>3</i> <i>4</i> <i>5</i> <i>6</i>	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	
	59	92.2	3	4.7	2	3.1	0	0.00	0	0.00	0	0.00	54	81.8	9	13.6	0	0.00	2	3.0	1	1.5	0	0.00			
	60	90.9	3	4.5	3	4.5	0	0.00	0	0.00	0	0.00	56	82.4	9	13.2	0	0.00	2	2.9	1	1.5	0	0.00			
	60	90.9	3	4.5	3	4.5	0	0.00	0	0.00	0	0.00	56	82.4	9	13.2	0	0.00	2	2.9	1	1.5	0	0.00			
	61	89.7	4	4.9	3	4.4	0	0.00	0	0.00	0	0.00	56	80.0	11	15.7	0	0.00	2	2.9	1	1.4	0	0.00			
	59	88.1	5	7.5	3	4.5	0	0.00	0	0.00	0	0.00	58	84.1	9	13.0	0	0.00	2	2.9	0	0.00	0	0.00			
	58	87.9	5	7.6	3	4.5	0	0.00	0	0.00	0	0.00	56	83.8	8	12.1	0	0.00	2	3.0	0	0.00	0	0.00			
	18	90.0	0	0.0	2	0.0	10	0.00	0	0.00	0	0.00	15	83.3	2	11.1	0	0.00	1	5.6	0	0.00	0	0.00			

Table 34

Physical Education Shift in Allocation Category- Five Years Ago to Current

Grade		Shift in Allocation Category – Five Years Ago to Current											
		0		1		2		3		4		5	
	N	%	N	%	N	%	N	%	N	%	N	%	
K	64	84.21	9	11.84	0	0.00	2	2.63	1	1.32	0	0.00	
1	64	85.33	8	10.67	0	0.00	2	2.67	1	1.33	0	0.00	
2	64	85.33	8	10.67	0	0.00	2	2.67	1	1.33	0	0.00	
3	64	85.33	8	10.67	0	0.00	2	2.67	1	1.33	0	0.00	
4	67	89.33	6	8.00	0	0.00	2	2.67	0	0.00	0	0.00	
5	66	90.41	5	6.85	0	0.00	2	2.74	0	0.00	0	0.00	
6	73	97.33	0	0.00	1	1.33	1	1.33	0	0.00	0	0.00	

Summary of Findings

Since the implementation of NCLB, there have been changes in the amount of time spent on teaching and learning certain subjects in the elementary school. Of the elementary schools participating in the survey, 41.0% have a specific time allocation model, 29.5% employ a modified block, 28.8% utilize a parallel block, and 3.8% described other schedules. It is interesting to note that in 35.9% of the schools, alternative scheduling practices were in place prior to the passing of NCLB. Infusing daily unencumbered planning time for all teachers is still a struggle in the schools as evidenced by the comments of the survey respondents. In particular, there is a need to conduct further study on the allocation of minutes for collegial planning for all teachers. There is also a need to focus on how shared common planning time builds collegiality and impacts students and instructional practices.

The shifts in minutes allocated for instruction is significant for two subjects. The increases correlate to reading and language arts and mathematics, content areas in which benchmark testing occurs and annual state assessments mandated by NCLB are administered. Regarding the reallocation of minutes for teaching social studies, science, music, art and physical education, there are decreases that are not statistically significant.

According to the major findings of a study conducted by Karweit (1989) on the number of hours usually scheduled for instruction in the typical school day: (a) the amount of time that teachers allocate to instruction in a particular content area is positively associated with students learning in that content area; (b) the proportion of allocated time that students are engaged is positively associated with learning; and (c) the proportion of time that tasks in reading or mathematics are performed with high success is positively associated with student learning. Based on the data, it would appear that this correlation could be generalized to the atypical or flexible school day as well.

Research Question 3 – What are the reasons for the changes?

The responses from the interviews with the principals, coupled with the comments from the survey participants give insight into reasons for and perceived benefits of the changes in schedules (see Appendix R for survey comments). Survey respondents were given an

opportunity to comment on the following: “Please share any other comments/thoughts regarding alternative scheduling practices in elementary schools”. Twenty-two principals wrote comments. The comments were analyzed for content and patterns. Twelve categories emerged. The three themes with the highest number of responses from the principals were: *effective use of time* (7 responses), *decreased time for the arts/non-academic subjects* (5 responses), and *student achievement* (4 responses). Many approaches to reforming and improving schools since NCLB have to do with either control or standardized testing. The Association for Curriculum Development (ASCD) and the ASCD Commission on the Whole Child are attempting to start the conversation in a different place. This should be about children – how to foster healthy, balanced and well-educated children. So, how do we structure schools and the school day to support those needs (Price, 2007)? See Table 28 for the themes and the number of comments made for each one.

Table 35

Survey Comments on Alternative Scheduling Practices

Themes	Number of Responses
Years of Implementation	2
Student Achievement	4
Targeted Instruction	2
Accountability, Assessment, NCLB	3
Effective Use of Time	7
Intervention/Enrichment	1
Collaboration/Teaming	3
Decreased Time for Arts/Non-Academic Subjects	5
Building Relationships	3
Change in School Climate	1
Impact on Staffing	2

CHAPTER 6

DISCUSSION OF FINDINGS, CONCLUSIONS, LIMITATIONS

The purpose of this study is to identify the extent to which scheduling in elementary schools has changed since the implementation of the NCLB mandate. Data were collected and analyzed from a study of three elementary schools and a survey. The mixed methodology using both qualitative and quantitative research enhanced with descriptive and inferential statistics provides some understanding of the phenomenon under study.

Each of the three case study schools has implemented a different time-allocation model for delivery of instruction. As change agents, the principals facilitated the changes but acknowledged that, “there was a strong desire within the staff to make a change” (Principal Interview, School B, December 10, 2007). There has been a strong commitment by their respective staffs to organize and manage instruction using organizational strategies that provide options regarding the issues of time and learning.

In discussing the credibility of qualitative research, Eisner (1991) stated, “We see a confluence of evidence that breeds interpretations and conclusions” (p. 110). In other words, the bits and pieces of evidence are compiled to formulate a ‘compelling whole.’ Data collection and analysis begins with the first interview, the first observation, and the document read, according to Merriam (2001). Interactions with the case study participants and triangulation of the data provided clearer interpretations and rich, thick descriptions of reasons for implementing the alternative scheduling practices. The meanings that arise from the analysis constitute the findings and are in the forms of themes, categories, theories or descriptive accounts that explain the data (Merriam, 2001).

The categories in this qualitative study are a result of three sources: the researcher, the participants and the literature review. That data analysis provided a catalyst to draw inferences as a step toward developing a theory that explains this educational practice. Prior to final conclusions being drawn, however, these judgments required further documentation and statistical analysis.

In order to further examine recurring behaviors or actions and to consider contrary evidence and interpretations, a survey, combining data from the case studies and from the review of the literature, was developed. The analysis of data gleaned from a survey of elementary school

principals constituted the second portion of this mixed design study. The survey was administered to principals at schools where the school day has been restructured to include specific and structured blocks of learning time. These survey participants were drawn from a census list representing 25 urban, suburban, and rural school divisions or clusters identified as utilizing alternative scheduling practices. Dr. Michael Rettig, renowned author and expert on scheduling identified these school divisions and the census list is comprised of 125 elementary schools (grades pre-kindergarten through sixth grade). The researcher collected study data from the principals at 78 of these schools. The quantitative methods used to analyze the survey data are research methods dealing with nominal data and anything measurable and are therefore distinguished from qualitative methods. The survey data are presented, throughout, in tables, graphs, and charts.

The findings of this mixed method investigation are discussed using the three research questions as a framework:

1. What are the characteristics of the scheduling practices currently being implemented in elementary schools?
2. How have these practices changed over the last five years?
3. What are the reasons for these changes?

The remainder of this chapter presents conclusions based on the findings, along with a discussion of the limitations of the study and recommendations for further study of the topic of alternate scheduling practices.

Discussion of Findings

Research Question 1: Characteristics of Current Scheduling Practices

The first research question (what are the characteristics of the scheduling practices currently being implemented in elementary schools?) was addressed through an analysis of the principals' responses to survey items regarding scheduling practices in their current schools. The analysis of these responses indicates that 41% of the elementary schools employ a specific time allocation model. The characteristics of that model include: (a) large blocks of uninterrupted instructional time, specifically for reading and mathematics, and (b) consistent daily time periods

for instruction. This large-block scheduling model was reported as the most popular scheduling practices in participants' schools.

The modified block schedule was reported to be in place in 29.5% of the cluster sample of elementary schools in the Commonwealth of Virginia that responded to the survey. The characteristics of a modified block scheduling practice are: (a) specific blocks of learning time that are scheduled throughout the day; and (b) central components of teacher teams, clusters of students, and designated times to plan and learn.

The parallel block scheduling model was reported as the scheduling practice in 25.6% of the survey schools. This instructional delivery model is characterized by the scheduling of students in order to reduce class size, increase instructional time, and reduce the effects of pull-out programs.

Three principals (3.8% of the schools represented in the survey) indicated that “other schedules” are in place that provide students with large blocks of instructional time in order to provide more opportunities for continuous learning. These schedules were achieved through reorganization of the school day and/or school year. The principals reported the following characteristics of the schedules at their schools:

1. Parallel block for second through fifth grades in reading; departmentalization for third through fifth grades with rotations the remainder of the day; common planning time for core SOL teachers to plan and to meet with parents;
2. A year-round school calendar; and
3. A highly structured schedule created by combining the parallel block model with specific time allocations; uninterrupted instructional time in reading and math; full inclusion for special education (SPED) and English language learners (ELL) by utilizing a licensed SPED or ELL teacher to co-teach during all reading and mathematics periods in the first through fifth grades.

Research Question 2: Changes in Scheduling Practices

The second question (how have the practices changed over the last 5 years?) was addressed through the analysis of responses of survey participants regarding their present time allocation models versus the time allocation models used in their schools five years ago.

Since the implementation of NCLB, there has been an increase in the number of daily instructional minutes spent on teaching reading/language arts and mathematics across all grade levels, kindergarten through fifth grade. The majority of the surveyed schools currently average 91 minutes or more of instruction in reading/language arts as compared to the highest range of 61-75 minutes 5 years ago. Mathematics instruction accounts for 76 or more minutes of the day as compared to the highest range of 46-60 minutes five years ago. There has been minimal increase in time allotted to teaching social studies and science from <45 minutes 5 years ago to 46-60 minutes currently. There appears to be insignificant reallocation of minutes and it is possible to infer some decreases in the time allotted for music, art and physical education; however the data failed to reject the null hypothesis (H_0), for these subjects.

Research Question 3: Reasons for Changes in Scheduling Practices

The ability of the school administrator to schedule time during the school day so that teachers and students can maximize teaching and learning opportunities has become an essential skill. Changing the structure of the school day to extend instructional time requires that administrators, teachers, and students have a firm commitment and clear understanding of the educational resources and processes of time (Canady & Rettig, 1996).

The third question (what are the reasons for these changes?) was addressed through the analysis of responses of survey participants regarding their responses to reasons generated from the literature review and the case study research. Survey respondents indicated satisfaction with changes in time allocations that occurred at their schools by responding “Strongly Agree” or “Agree” to the items. On 29 of the survey items, the majority of responses from the principals indicated the changes in scheduling practices produced favorable results that have occurred in recent years. The responses ranged from a high of 100.0% on (Q 16) *The schedule provides a framework for better organization of instructional time*, to a low of 71.8% on (Q 20) *There are multiple opportunities for all core, content specific, specialists, and intervention teachers to collaborate on teaching and learning*.

Responses on two questions on the survey did not support the case studies or the literature review. *The number of pull-out programs has decreased* (Q 32), with 64% responding only “Strongly Agree” or “Agree.” This is contrasted with the 93.6% responding positively to (Q 1) *There is less fragmentation of the instructional program*. According to Schroth (1997),

traditional elementary scheduling creates a number of administrative problems for principals: (a) teachers resent interruptions for special classes, (b) teachers have strong preference about the time and day when art, music, physical education, computer laboratory, planning and library are to be scheduled, and (c) special programs such as Title 1, remedial reading and special education and related services can disrupt the continuity of classroom instruction. Proponents of flexible scheduling emphasize this method as a way to improve student-teacher relationships; to increase engaged learning time; to use varied instructional methods and procedures; and to have less fragmentation to the school day (Berliner, 2002; Cawelti, 1994; and Karweit & Slavin, 1991).

The second lowest response rate was for (Q 40) *The school schedule is now a key consideration when hiring staff*. Only 45.6% of the respondents were in agreement contrasted with 90.0% positive responses to (Q 4) *The staff makes decisions with the principal regarding time for teaching and learning*. Principals are definitely the change agents, according to Canady and Rettig (1993). However, administrators cannot effect any lasting change without sufficient staff, staff preparation and staff orientation. Certainly resistance to change must be anticipated as a result of the perceived frustration and stress that may accompany the change. Fullan (1990) believes that the change from a more traditional to an alternative schedule necessitates a number of steps but none is more important than the planning and implementation of effective staff development. Staff development and successful innovation or improvements are intimately related. However, even in the narrow sense of successful implementation of a single innovation, people have underestimated what it takes to accomplish this close interrelationship fundamentally (Fullan, 1990). The principal of one case study school summarized the need for the school schedule to be a key consideration when hiring staff as follows,

New teachers coming in seem to adjust more readily to the changes. They are not as opposed to certain strategies like common assessments or departmentalization by subjects as more seasoned or veteran teachers tend to be. (Principal A Interview, December 6, 2007)

These findings confirm and enhance the findings of the literature review, the case studies and the survey.

Since the implementation of NCLB, there have been changes in the amount of time spent on teaching and learning certain subjects in the elementary school. All three schools participating

in the case studies have protected or uninterrupted and specific blocks of instructional time for teaching reading. Two of the schedules also allocated prescribed time for mathematics instruction. The following three methods of scheduling are employed by these schools: (1) specific time allocation, (2) parallel block, and (3) modified parallel block. According to one of the principals,

By implementing the block schedule, it allowed that time...that block of uninterrupted teaching and learning time. It also provided equal access to the curriculum for all students. (School C Principal Interview, December 12, 2007)

Of the elementary schools participating in the survey, 41% have a specific time allocation model; 29.5% employ a modified block; 28.8% utilize a parallel block; and 3.8% described other schedules. The second and third ranked practices, as reported by approximately a quarter of the respondents, were the modified block schedule (29.5%) and the parallel block schedule (28.8%).

Wiggins and McTighe (1998) indicate that students are the primary clients of educators and “the effectiveness of curriculum assessment and instructional design is ultimately determined by their achievement of desired learning” (p. 7). Standards are needed to inform and give shape to those responsible for educating children. Accordingly, they believe that standards should provide a framework to help educators identify teaching and learning priorities that guide the design of the curriculum and assessments.

Key findings of a comprehensive study of NCLB conducted by the Center on Education Policy (CEP, 2007) concluded that, since 2002, the average minutes of increased time for English language arts (ELA) amounted to a 46% increase, for mathematics a 37% increase, and a 42% increase across the two subjects combined. To accommodate this increased time, school districts reported reducing time from one or more subject areas or activities such as social studies, science, art, music, physical education, lunch and/or recess at the elementary school. The total decreases added up to 141 minutes per week across all subjects, on average, or 30 minutes per day. This decrease represents an average reduction of 31% in the total instructional time devoted to these other subjects since 2001-2002.

After summarizing the results of several studies of achievement and time on task, Karweit (1989) found inconsistent effects of time variables on achievement. She found little evidence to suggest that increasing time for learning in and of itself would be an effective

educational strategy. Instead, she proposed that the quality of instruction had to be considered while taking into account both the time needed and the time used. Larger blocks of time allow for more opportunities to employ varied and interactive teaching methods in a more flexible and productive classroom. Sturgis (1995) listed other benefits of flexible scheduling, including: (a) efficient use of time, (b) decreased class size, and (c) the ability of teachers to use more process-oriented strategies.

Proponents of block scheduling methods in elementary schools emphasize this model as a way to improve student-teacher relationships by enabling teachers to take advantage of the longer blocks of time to individualize instruction. Cawelti (1994) states, “Block scheduling helps teachers develop closer relationships with students” (p. 36). Edwards (1995) sums up the impact of the move to block scheduling, “This is simply a better, more efficient use of teacher time and student time...” (p. 88).

Post Hoc Analysis

As indicated above, the analysis of survey responses indicates a dramatic increase in minutes allocated for instruction since NCLB for two subjects, reading/language arts and mathematics. It is noteworthy that in these two subjects benchmark testing occurs and annual state assessments mandated by NCLB are administered.

In order to determine whether the extra time now allocated for reading/language arts and mathematics could have resulted from a decrease in the minutes previously allocated for art and physical education, a post-hoc analysis was conducted. The analysis of the change in time blocks allotted for the two subjects was performed by computing the means of the shifts in the blocks of time for reading and mathematics and then combining the means (reading + math). The means of the shifts time allotments for the two subjects demonstrating some decreases in allotted instructional minutes (art + physical education) were also calculated. The difference between the two combined means $[(\text{read} + \text{math}) - (\text{art} + \text{physical education})]$ was calculated.

The purpose of this analysis was to attempt to determine how the additional instructional minutes for reading and mathematics were obtained. Table 36 indicates an average change of two shifts in time of the minutes allotted for art and physical education, kindergarten through second grade, and an average change of one and a half shifts in time for grades third through

fifth, when comparing the data from five years ago to current practice. Figure 12 graphically displays the relation of the shifts in the various subjects.

Table 36

Average Change in Shifts in Time of Minutes Allocated for Reading, Math, Art, Physical Education and for the Combined Reading/Math and Art/Physical Education

Grade	Reading	Math	Art	PE	Read+Math	Art+PE	(Read+Math) - (Art +PE)
K	1.49	0.95	0.05	0.18	2.44	0.23	2.212
1	1.30	0.88	0.00	0.15	2.18	0.15	2.025
2	1.38	0.94	0.00	0.15	2.31	0.15	2.162
3	1.01	0.83	0.04	0.17	1.84	0.20	1.638
4	0.96	0.68	0.04	0.08	1.64	0.11	1.525
5	0.86	0.66	0.05	0.04	1.53	0.09	1.438

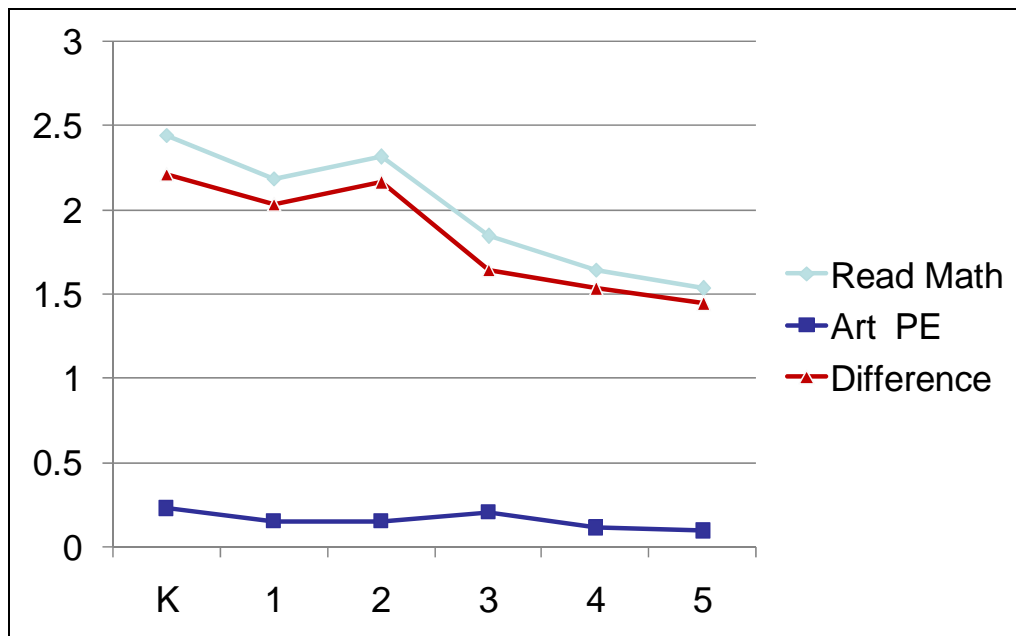


Figure 12. Means of shifts in allocation of time blocks for reading + math and art + physical education.

Conclusions

The findings in this study confirm results presented in the literature review. The following two findings do not support the case studies or the literature review: (1) the number of pull-out programs has not decreased, and (2) the school schedule is not a key consideration when hiring staff. According to Carroll (1994), the Center for Applied Research for Educational Improvement (1995), Gusky and Kifer (1994), longer blocks of instructional time can lead to increased individualized instruction and more opportunities for students to learn at their own pace. With varying degrees of success, the data seem to indicate that flexible scheduling methods have produced, to varying degrees of success, the following: (a) a reduction in the fragmentation of the school day, (b) reduced stigmatization of students by blending support programs and services, (c) increases in attendance rate, test scores, and students' self-esteem, (d) more effective use of instructional staff, and (e) decreases in discipline problems and special education referrals.

The conclusions, based on the findings, substantially confirm the hypothesis set forth at the beginning of the study that changes in elementary scheduling practices are associated with the implementation of NCLB. Findings of the school study and the survey lead to the following conclusions:

1. Administrators across the Commonwealth of Virginia, over the past 15 years, have implemented alternative scheduling practices and made varied scheduling decisions, organizational and program changes in elementary schools.
2. The structure of the school day has changed in an effort to extend learning opportunities in specific content areas, especially reading and math.
3. Restructuring of the school day to increase time for teaching and learning occurred both prior to and since NCLB.
4. Changes in the structure of the school day have increased minutes allocated for language arts/reading and mathematics in kindergarten through fifth grades.
5. Changes in the structure of the school day have decreased some of the time allotted for non-academic subjects.
6. The most significant shift in time since NCLB occurred in the early primary grades in language arts and reading.

7. The least amount of shift in time since NCLB occurred in art in kindergarten through fifth grades.
8. Alternative schedules provide a framework to better organize instructional time.
9. Alternative schedules provide a mechanism for building more intervention periods for enrichment and/or remediation into daily schedules.
10. The alternative schedules make it easier to individualize and target instruction.
11. There is more flexibility with teaching and learning styles in alternative schedules.
12. There is more evidence of time on task throughout the school day.

In the original premise, elementary scheduling practices were seen as the dominant feature of the theory, with reasons associated with the changes sharing equal positions, including NCLB. That assumption has proven to be valid.

No Child Left Behind: Is it all about time? It is all about the provision of time – time allotted for quality teaching and learning experiences, for preparing and training staff, for planning and collaborating for continuity of instruction. But more importantly, it is about taking time to look at the impact of the imbalances created in the overall curricular delivery due to the overwhelming emphasis devoted to academics. The focus should be on facilitating and creating an appropriate scheduling solution that meets the unique needs of each school and every child. It is about taking more time to institutionalize the most effective methods of providing equal access for all students to multiple learning opportunities.

In this day of accountability and standards-based learning, educators are acutely focused on using time more effectively. Administrators certainly have to consider alternative scheduling decisions and organizational program changes. But it is about time for legislators, educators and administrators to seriously consider the potential effects of these events on students and their overall success and to what extent these decisions are creating an imbalance in teaching and reaching the whole child.

Limitations of the Study

There are some limitations to this study. A census list of schools was surveyed rather than the universe of schools. Therefore, care should be taken to avoid generalizing the results. Only public elementary schools in the Commonwealth of Virginia, grades pre-kindergarten to sixth were included, thereby limiting generalization to other types and locations of schools.

Implications and Recommendations

Using the findings from both the study schools and the survey, the following implications and recommendations are presented:

1. Implication: Effective use of time on task for teaching and learning is the most critical component of alternative schedules.

Recommendation: Principals must guarantee that the schedule allows sufficient uninterrupted blocks of time for delivering, enriching and enhancing instruction.

2. Implication: Opportunities for collaborating, teaming, and planning help to build relationships among staff provide ownership of student achievement for all teachers and assures continuity of instruction for all students.

Recommendation: A collaborative environment is critical for the successful implementation of an alternative schedule. Staff members working in concert with each other are more likely to be risk-takers with modifying the schedule to accommodate the needs of learners.

3. Implication: Staff preparation and training are critical issues prior to implementing scheduling changes.

Recommendation: Serious consideration should be given to including staff in the hiring process and providing a mentorship program to orient staff to the nuances of the schedule.

4. Implication: Alternative scheduling practices provide time to target and individualize instruction.

Recommendation: Principals must ensure that teachers do not become deliverers of a standard curriculum geared only toward the tests. Differentiated instructional practices must be employed to offer real educational equity.

5. Implication: In alternative schedules, low teacher-student ratios are maintained during small group instruction in reading and mathematics.

Recommendation: Maintaining smaller class size is an intervention that benefits all students, particularly students in the early primary grades.

Recommendations for Further Studies

This study provided a rich and detailed description of the changes in scheduling practices in elementary schools in the Commonwealth of Virginia since NCLB. The confirmatory data resulted from a survey of principals in schools currently implementing an alternative schedule for delivery of instruction. Though the data provided some details and answers regarding the characteristics of the schedules and reasons for changes to the schedules, other questions were raised for further research. The following further studies are recommended:

1. Conduct further studies on instructional minutes allocated for teaching and learning in the arts, social sciences and physical education.
2. Compare schools with similar scheduling practices to substantiate the present results.
3. Compare test data in schools utilizing alternative schedules in subjects other than reading and language arts and mathematics.
4. Conduct further studies to determine to what extent the combination of small classes, varied instructional techniques, and more effective use of time yield better results in schools with alternative schedules.
5. Collect and analyze data to further define and validate the instrumentation.

Epilogue

The findings in this study contribute to the paucity of current research on the effects of alternative scheduling practices for delivery of instruction on elementary school cultures. Findings indicate the reasons for and perceived benefits of changes in elementary scheduling since the implementation of the No Child Left Behind mandate. This federal legislation has complicated the broader view of knowledge with a narrow focus on using reading and mathematics to determine whether schools are making progress in reducing achievement gaps among various subgroups of students. The ultimate goal should be the equalization of instructional time for all student populations in multiple subjects.

Unfortunately, in their zeal to raise test scores, too many policymakers wrongly assume that students who are interacting in groups, or being creative in music, dance, or art are not doing real academic work. Of greatest concern is the enormous amount of time that is being spent on reading, writing, and mathematics at the cost of instruction in science, social studies, physical education and the arts.

Dewey (1938) described education as life, not as preparation for life. Since students live much of their lives in school, then how well a school helps them live their lives by offering real educational equity; by employing differentiated instructional practices; by developing a vision for 21st century student success in the new global economy are the true measures of a school's adequate yearly progress.

According to the National Commission on Time and Learning (1994), "We must use time in new, different, and better ways" (p. 30). Alternative scheduling practices in elementary schools incorporate methods to use time differently. New changes include involving teachers in developing and implementing the schedules; infusing more training and orientation opportunities for staff; creating more uninterrupted blocks of time for remediation and enrichment; and providing consistent planning time for teachers and opportunities to build more collegial relationships. Regardless of the schedule, better ways to instruct and assess that encourage a shift from teachers covering content to students mastering concepts has to become a primary focus for educators. At some point, another goal of leaving *no child behind* will be that all learners must be fully engaged in the learning experience. All children will have equal access to all curricula with the main purpose of enabling the growth of the whole child.

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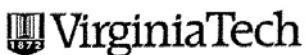
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APPENDIX A

IRB APPROVAL TO CONDUCT RESEARCH



Office of Research Compliance
Institutional Review Board
2000 Kraft Drive, Suite 2000 (0497)
Blacksburg, Virginia 24061
540/231-4991 Fax 540/231-0959
e-mail moored@vt.edu
www.irb.vt.edu

FWA00000572(expires 1/20/2010)
IRB # is IRB00000667

DATE: February 6, 2008

MEMORANDUM

TO: Walt Mallory
Ritchie Carroll

FROM: David M. Moore

Approval date: 2/6/2008
Continuing Review Due Date: 1/22/2009
Expiration Date: 2/5/2009

SUBJECT: **IRB Expedited Approval:** "No Child Left Behind: Is It About Time?", IRB # 07-620

This memo is regarding the above-mentioned protocol. The proposed research is eligible for expedited review according to the specifications authorized by 45 CFR 46.110 and 21 CFR 56.110. As Chair of the Virginia Tech Institutional Review Board, I have granted approval to the study for a period of 12 months, effective February 6, 2008.

As an investigator of human subjects, your responsibilities include the following:

1. Report promptly proposed changes in previously approved human subject research activities to the IRB, including changes to your study forms, procedures and investigators, regardless of how minor. The proposed changes must not be initiated without IRB review and approval, except where necessary to eliminate apparent immediate hazards to the subjects.
2. Report promptly to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.
3. Report promptly to the IRB of the study's closing (i.e., data collecting and data analysis complete at Virginia Tech). If the study is to continue past the expiration date (listed above), investigators must submit a request for continuing review prior to the continuing review due date (listed above). It is the researcher's responsibility to obtain re-approval from the IRB before the study's expiration date.
4. If re-approval is not obtained (unless the study has been reported to the IRB as closed) prior to the expiration date, all activities involving human subjects and data analysis must cease immediately, except where necessary to eliminate apparent immediate hazards to the subjects.

Important:

If you are conducting **federally funded non-exempt research**, this approval letter must state that the IRB has compared the OSP grant application and IRB application and found the documents to be consistent. Otherwise, this approval letter is invalid for OSP to release funds. Visit our website at

<http://www.irb.vt.edu/pages/newstudy.htm#OSP> for further information.

cc: File

Invent the Future

VIRGINIA POLYTECHNIC INSTITUTE UNIVERSITY AND STATE UNIVERSITY
An equal opportunity, affirmative action institution

APPENDIX B

INFORMED CONSENT

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Informed Consent for Participants in Research Projects Involving Human Subjects

Title of Project: “No Child Let Behind: Is it about Time?”

Investigator: Ritchie G. Carroll

I. Purpose of this Research/Project

The purpose of this study is to identify alternative scheduling practices for delivery of instruction, as well as changes in elementary school scheduling, since the implementation of the No Child Left Behind mandate in elementary schools across the Commonwealth of Virginia.

II. Procedures

The following activities will take place to complete the study: interviews with the principal in three elementary schools in the Commonwealth; observations of the school activities; and a review of documents. Responses and themes culled from the interviews will be used to develop a survey instrument to disseminate to a sample population of elementary schools across the state. The interviews and observations are expected to last no longer than two hours per school. Copies of interview transcriptions will be shared with the interviewees. The observations and document review will be unobtrusive to the learning process; but may include photographing. Surveys will be confidential with no identifying codes or marks for principals.

III. Risks

There are expected to be minimal risks, if any, to the participants in this study. Those who do not want to participate may opt-out of the process.

IV. Benefits

Though there is no guarantee of benefits associated with this study, it is hoped that this study will identify the various elementary scheduling practices in the Commonwealth of Virginia. Results of the study will be shared with principals participating in the study, if requested.

V. Extent of Anonymity and Confidentiality

Care will be taken to preserve the confidentiality of the participants. No social security numbers or names will be used in the study. Instead, a coding method will be developed to preserve confidentiality. Interviews will be tape recorded in order to have accurate transcriptions. These tapes will be stored at the home of the investigator and destroyed at the end of the study. Transcripts of the interviews will be shared with the interviewees to determine accuracy.

VI. Compensation

There is no compensation associated with participation in this project.

VII. Freedom to Withdraw

All participants are free to withdraw from any study at any time without penalty.

VIII. Subject's Responsibilities

I voluntarily agree to participate in this study. I have the following responsibilities:
Complete the interview or complete the survey, if participating.

IX. Subject's Permission

I have read and understand the Informed Consent and conditions of this project. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent:

Date

Subject Signature

Date

Witness (Optional except for certain classes of subjects)

Should I have any pertinent questions about this research or its conduct, and research subjects' rights, and whom to contact in the event of a research-related injury to the subject, I may contact:

Ritchie G. Carroll	703-335-8857/Ritchie.carroll@mpark.net
Investigator(s)	Telephone/e-mail

Dr. Walter Mallory	703-501-7930/wmallory@vt.edu
Faculty Advisor	Telephone/e-mail

Dr. Theodore Creighton	540-231-4546/tcreigh@vt.edu
Departmental Reviewer/Department Head	Telephone/e-mail

David M. Moore	540-231-4991/moored@vt.edu
Chair, Virginia Tech Institutional	Telephone/e-mail
Review Board for the Protection of Human Subjects	
Office of Research Compliance – CVM Phase II (0442)	
Research Division	

This Informed Consent is valid from _____ to _____.

[NOTE: Subjects must be given a complete copy (or duplicate original) of the signed Informed Consent.]

APPENDIX C

INTERVIEW PROTOCOL

Interviewer's Statement

I am interested in any alternative scheduling models utilized in your school for delivery of instruction, particularly those implemented since the enactment of No Child Left Behind (NCLB). In my study I want to answer the following questions: What are the characteristics of the scheduling practices currently in place in your school? To what extent has the schedule been altered over the last 5 years? What are the reasons for these changes? What are the positive and negative perceptions of these changes in scheduling in your school building?

I will be recording our interview in order to have an accurate transcription. You will be given a copy of the transcript to check for accuracy.

APPENDIX D INTERVIEW GUIDE

QUESTIONS ON ALTERNATIVE SCHEDULING MODELS IN ELEMENTARY SCHOOLS

Part I DEMOGRAPHIC DATA

PRINCIPAL _____ SCHOOL _____
 SCHOOL DIVISION _____ GRADE CONFIGURATION _____
 DIVISION ENROLLMENT _____ TOTAL SCHOOL ENROLLMENT _____
 CURRENT SCHOOL HOURS _____ PREVIOUS SCHOOL HOURS _____
 COMMUNITY TYPE: Suburban Urban Rural
 PERCENTAGE OF VARIOUS STUDENT SUBPOPULATIONS:
 _____ Caucasian/White _____ African-American/Black
 _____ Hispanic/Latino/ELL _____ Asian/Pacific Islander
 _____ Students with Disabilities

Part II STRUCTURED QUESTIONS

In response to state and federal mandates, many elementary schools have restructured their school day and created various instructional delivery and management models by reallocating time and/or extending the school day.

1. Describe the alternative scheduling practices you currently have in place in your school and the scheduling practices that existed prior to 2002.

2. Why did you implement this particular time allocation schedule?

3. How long have you employed this particular schedule in your school?

4. Are there specific components that need further changes or alterations?

5. What do you perceive to be the major differences between your current schedule and your previous schedule?

6. Have you have had experience with a traditional school schedule, (defined as uniformed six-hour day and a 180-day/year), and if so, how would you compare those two?

7. The implementation of this alternative schedule has allowed.....
 - A. What else would you like for me to know about the successes of your alternative scheduling practices?

 - B. Is there anything else I need to know about your school and the process of restructuring time?

APPENDIX E
INTERVIEW CHECKLIST

School: _____

Name of Principal Interviewed: _____

Date of Interview: _____

Total Years as a Principal: _____ Total Years as a Principal in this school _____

Transcript Review by Interviewee: _____

Follow-up, if needed: _____

APPENDIX F OBSERVATION PROTOCOL

Principal's Name: _____

Name of School: _____

Name of School Division: _____

Grade Configuration: _____ Date of Observation: _____

Literature Domains	Observations
Class Size	
Instructional Factors	
Planning Factors	
Use of Time Factors	
School Climate	
Other	

Additional Observations and Comments:

APPENDIX G OBSERVATION CHECKLIST

School: _____ Date: _____

Location	Comments
Building	
School Grounds	
Hallways	
Offices	
Regular Education Classroom	
Special Education Classroom	
Learning Cottages	
Labs	
Extension Centers	
Specialists' Rooms (Reading, Math, ELL)	
Cafeteria	
Clinic	
Art Class	
Music Class	
Physical Education Class	
Teachers' Lounge	
Teacher Workroom	
Library	
Playgrounds	
Other	

APPENDIX H
 PROTOCOL FOR REVIEW OF DOCUMENTS

School: _____ Date(s) of Review _____

Literature Domains	Observations
Class Size	
Instructional Factors	
Planning Factors	
Use of Time Factors	
School Climate	
Other	

APPENDIX I DOCUMENT REVIEW CHECKLIST

Name of School: _____

Document	Comments
Master Schedules	
Specialists Schedules	
School Handbook	
School Newsletters	
Other Parent Communication	
Classroom Newsletters	
Lesson Plans	
Pacing Guides/Curriculum Framework	
Assessment Data	
School Webpage	
Other	

APPENDIX J MATRIX FOR QUALITATIVE DATA ANALYSIS

[illegible]

[illegible]

[illegible]

[illegible]

APPENDIX K
VALIDATION SURVEY

STATEMENTS ASSESSING ALTERNATIVE SCHEDULING PRACTICES IN ELEMENTARY SCHOOLS IN THE
COMMONWEALTH OF VIRGINIA

Directions: Circle the number of the appropriate response.

Domains:

1. Effective Use of Time/Time on Task
2. Curriculum and Classroom Instruction
3. Staffing Practices and Teacher Efficacy
4. School Climate and Facilitating Change
5. Collaborating and Teaming for Continuity of Instruction

Association Ratings:

1 = very weak 2 = weak 3 = strong 4 = very strong

Clarity Ratings:

1 = very unclear, delete 2 = somewhat clear, revise 3 = clear, leave as written

(For any items rated as 1 or 2 for clarity or association, please write any suggestions directly on the page.)

[illegible]

[illegible]

APPENDIX L

VALIDATION QUESTIONS FOR QUANTITATIVE STUDY

Rules

- ✓ Under “Rating the individual question to determine its importance”, scores of 80% or higher derived from combining scores ‘Strongly Agree (5) ’ and “Agree (4)” this is an appropriate question will be used.
- ✓ Where multiple domains were selected, the domain with a score of 60% or higher will be used.
- ✓ Under clarity of questions, the researcher will use professional judgment to determine appropriateness of questions and revisions. Any question where 33% or more of the respondents mark “somewhat unclear” will be revised.

Effective Use of Time/Time on Task	8
Curriculum, Class Size and Classroom Instruction	10
Staffing Practices and Teacher Efficacy	8
School Climate and Facilitating Change	9
Collaborating and Teaming for Continuity of Instruction	<u>6</u>
Total	41

EFFECTIVE USE OF TIME/TIME ON TASK

- ✓ There is less fragmentation of the instructional program. (REVISED)
- ✓ An intervention period for enrichment and/or remediation is built into the daily schedule. (Chosen because of case study.)
- ✓ The schedule provides a framework for better organization of instructional time. (Chosen because of literature review.)
- ✓ Sufficient time is allowed for teaching special subjects (Art, Music, Library, Physical Education).
- ✓ Teachers find it difficult to remain on schedule. (Chosen because of case study.)
- ✓ Teachers have difficulty aligning instruction with the schedule. (Chosen because of case study.)
- ✓ Teachers have daily and unencumbered planning time. (Moved from Collaborating and Teaming for Continuity of Instruction.)
- ✓ Time on task for learning is evident throughout the school day.

CURRICULUM, CLASS SIZE AND CLASSROOM INSTRUCTION

- ✓ Students are more engaged in their own learning. (Chosen because of literature review.)
- ✓ The schedule makes it easier to individualize and target instruction. (Chosen because of literature review.)
- ✓ Specific blocks of uninterrupted instructional time are protected for teaching reading and mathematics.
- ✓ There is more flexibility with teaching and learning styles.

- ✓ Teachers are better able to pace and make appropriate changes to the curriculum to meet the needs of students. (Chosen because of case study.)
- ✓ Students are assessed frequently and regularly.
- ✓ Assessment is perceived as a vital part of the instructional process.
- ✓ The principal shares test results frequently with all appropriate staff.
- ✓ The number of pull-out programs has decreased. (Moved from Use of Time/Time on Task).
- ✓ There are integrated learning opportunities for students with special needs. (Moved from Collaborating and Teaming for Continuity of Instruction).

STAFFING PRACTICES AND TEACHER EFFICACY

- ✓ The staff makes decisions with the principal regarding time for teaching and learning.
- ✓ The principal visits classrooms frequently.
- ✓ There is a lack of collegiality between core teachers and specialists. (Chosen because of case study)
- ✓ Teachers consistently take ownership for developing and/or adjusting the schedule to meet the needs of the students.
- ✓ Staff members participate in the hiring process.
- ✓ A strong mentorship program is in place to orient new staff to the nuances of the schedule. (Chosen because of case study.)
- ✓ The lowest teacher-pupil ratio is maintained during small group instruction in math and language arts. (REVISED and moved from Curriculum Class Size and Classroom Instruction)
- ✓ Teacher leadership and involvement in the scheduling process has improved overall school operations. (Chosen because of case study.)

SCHOOL CLIMATE AND FACILITATING CHANGE

- ✓ Appropriate staff development was imperative prior to implementation of the alternative schedule. (Chosen because of literature review.)
- ✓ The principal participates in staff development. (Chosen because of literature review.)
- ✓ Teachers are free to be risk-takers with modifying the schedule. (REVISED)
- ✓ Teachers have fully embraced the schedule and the allocation of time.
- ✓ Teachers better understand the importance of their roles. (Chosen because of case study.)
- ✓ All students are benefiting from the structure. (REVISED)
- ✓ The principal makes some scheduling decisions without the input of the staff.
- ✓ The district office determines the scheduling practices. (Chosen because of case study.)
- ✓ The school schedule is now a key consideration when hiring staff.

COLLABORATING AND TEAMING FOR CONTINUITY OF INSTRUCTION

- ✓ Shared decision-making and collaboration across grade levels is more evident among staff.
- ✓ Most people in the school work for the success of all students. (Chosen because of case study.)
- ✓ Specialists collaborate with classroom teachers on instruction and achievement.
- ✓ There are multiple opportunities for all core, content specific, specialists, and intervention teachers to collaborate on teaching and learning. (Chosen because of case study.)
- ✓ Teachers are involved collaboratively with the principal on student placement decisions.

- ✓ There are multiple opportunities for all core, content specific, encore, and intervention teachers to collaborate with each other. (Chosen because of case study.)

APPENDIX M

SOURCE OF SURVEY QUESTIONS

Survey Questions	From Literature Review	From School Study
1. There is less fragmentation of the instructional program	X	X
2. Shared decision-making and collaboration across grade levels is more evident among staff.		X
3. Appropriate staff development was imperative prior to implementation of the alternative schedule.	X	X
4. The staff makes decisions with the principal regarding time for teaching and learning.		X
5. Students are more engaged in their own learning.	X	X
6. The schedule makes it easier to individualize and target instruction.	X	X
7. Specific blocks of uninterrupted instructional time are protected for teaching reading and math.	X	X
8. There is more flexibility with teaching and learning styles.	X	
9. The principal participates in staff development.	X	X
10. Most people in the school work for the success of all students.		X
11. An intervention period for enrichment and/or remediation is built into the daily schedule.	X	X
12. Teachers are better able to pace and make appropriate changes to the curriculum to meet the needs of students.		X
13. The principal visits classrooms frequently.		X
14. Teachers are free to be risk-takers with modifying the schedule.		X
15. Specialists collaborate with classroom teachers on instruction and achievement.	X	X
16. The schedule provides a framework for better organization of instructional time.	X	X
17. Assessment is perceived as a vital part of the instructional process.	X	X
18. There is a lack of collegiality between core teachers and specialists.		X
19. Teachers have fully embraced the schedule and the allocation of time.		X
20. There are multiple opportunities for all core, content specific, specialists, and intervention teachers to collaborate on teaching and learning.		X
21. Sufficient time is allowed for teaching special subjects, (Art, Music, Library, Physical Education).	X	
22. Students are assessed frequently and regularly.	X	X
23. Teachers consistently take ownership for developing and/or adjusting the schedule to meet the needs of the students.		X
24. Teachers better understand the importance of their roles.		X
25. Teachers are involved collaboratively with the principal on student placement decisions.		X
26. Teachers find it difficult to remain on schedule.		X

Survey Questions	From Literature Review	From School Study
27. The principal shares test results frequently with all appropriate staff.		X
28. Staff members participate in the hiring process.		X
29. All students are benefiting from the structure.	X	X
30. Teachers have daily and consistent unencumbered common planning time.	X	
31. Teachers have difficulty aligning instruction with the schedule.		X
32. The number of pull-out programs has decreased.	X	X
33. Time on task for learning is evident throughout the school day.	X	X
34. A strong mentorship program is in place to orient new staff to the nuances of the schedule.		X
35. The principal makes some scheduling decisions without the input of staff.		X
36. The lowest teacher-pupil ratio is maintained during small group instruction in math and language arts.	X	X
37. The district office determines the scheduling practices		X
38. There are multiple opportunities for all core, content specific, encore and intervention teachers to collaborate.	X	X
39. There are more integrated learning opportunities for students with special needs.	X	X
40. The school schedule is now a key consideration when hiring staff.		X
41. Teacher leadership and involvement in the scheduling process has improved overall school operations.		X

APPENDIX N

LETTER TO SURVEY PARTICIPANTS



Manassas Park City Schools

ONE PARK CENTER COURT • SUITE A • MANASSAS PARK, VA 20111-2395 • (703) 335-8850
 • FAX (703) 361-4583 • Web Page – www.mpark.net • ritchie.carroll@mpark.net

Survey on Alternative Scheduling Practices in Elementary Schools

http://www.surveymonkey.com/s.aspx?sm=ReoZblruSF_2fxnWvPPkw4pA_3d_3d

Dear Colleague:

I am a May 2008 candidate for a doctorate in Educational Leadership and Policy Studies at Virginia Polytechnic Institute and State University. My dissertation is titled: No Child Left Behind: Is it about Time? A Study of Scheduling Practices Implemented in Elementary Schools in the Commonwealth of Virginia since the Authorization of NCLB. To complete my study, I am requesting your input on a 15 minute survey, which can be completed through a web based program at http://www.surveymonkey.com/s.aspx?sm=ReoZblruSF_2fxnWvPPkw4pA_3d_3d.

Your participation is essential to the success and validity of the research. The survey asks for the opinions of selected elementary principals pertaining to the changes in elementary scheduling practices over the last 5 years. You have been selected from a census list of Virginia Public Elementary School Principals who are leaders in schools employing some type of alternative schedule. There is no identifying information on the survey and your responses will be confidential. Thank you in advance for completing this self-explanatory one page survey. Once you have answered all the questions, please click DONE to submit your responses.

If you have any questions, please feel free to call me at 703-335-8857, or email me at ritchie.carroll@mpark.net. I am deeply indebted to you for finding the time to hinder me in conducting this research. If at all possible, please complete and return the survey on or before February 29, 2008.

Gratefully,

Ritchie G. Carroll
 Associate Superintendent for Administrative Services
 Manassas Park City Schools
 1 Park Center Court Suite A
 Manassas Park, Virginia 20111
 703-335-8857
 Fax: 703-361-4583
ritchie.carroll@mpark.net

APPENDIX O
CENSUS LIST OF SCHOOL DIVISIONS SURVEYED

Albemarle County	Hopewell City
Alexandria City	Lynchburg City
Amherst County	Manassas City
Arlington County	Manassas Park City
Augusta County	Northampton County
Botetourt County	Portsmouth City
Chesapeake City	Prince William County
Danville City	Russell County
Dickenson County	Staunton City
Gloucester County	Stafford County
Goochland County	Virginia Beach City
Greene County	Waynesboro City
Hanover County	

APPENDIX P

SURVEY

Survey of Alternative Scheduling Practices in Elementary Schools

1. Default Section

1. Listed below are characteristics of elementary school alternative scheduling practices that have been used in the research literature. Please indicate which one is closest to the description that is used in your school.

- ☐ Parallel Block Schedule: scheduling students in order to reduce class size, increase instructional time, and reduce the effects of pull-out programs.
- ☐ Specific Time Allocation Model: scheduling large blocks of uninterrupted instructional time, specifically for reading and mathematics, with consistent daily time periods for instruction.
- ☐ Modified Block Schedule: scheduling specific blocks of learning time throughout the day with central components being teacher teams, clusters of students, and designated times to plan and learn.
- ☐ Other Schedules: scheduling students in any other method to provide large blocks of instructional time by reorganizing the school day and/or calendar to provide more continuous learning. Please describe those characteristics:

*** 2. Listed below are questions related to the impact of alternative scheduling practices in elementary schools on curriculum and instruction, time on task, collaboration, facilitating change, staffing practices and teacher efficacy. Please select one rating that best describes your response to each statement.**

As a result of alternative scheduling practices in your school...

	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Sure
There is less fragmentation of the instructional program.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shared decision-making and collaboration across grade levels is more evident among staff.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Appropriate staff development was imperative prior to implementation of the alternative schedule.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The staff makes decisions with the principal regarding time for teaching and learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students are more engaged in their own learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The schedule makes it easier to individualize and target instruction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Specific blocks of uninterrupted instructional time are protected for teaching reading and math.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is more flexibility with teaching and learning styles.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Survey of Alternative Scheduling Practices in Elementary Schools

The principal participates in staff development.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most people in the school work for the success of all students.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
An intervention period for enrichment and/or remediation is built into the daily schedule.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teachers are better able to pace and make appropriate changes to the curriculum to meet the needs of students.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The principal visits classrooms frequently.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teachers are free to be risk-takers with modifying the schedule.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Specialists collaborate with classroom teachers on instruction and achievement.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The schedule provides a framework for better organization of instructional time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assessment is perceived as a vital part of the instructional process.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is a lack of collegiality between core teachers and specialists.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teachers have fully embraced the schedule and the allocation of time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are multiple opportunities for all core, content specific, specialists, and intervention teachers to collaborate on teaching and learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sufficient time is allowed for teaching special subjects, (Art, Music, Library, Physical Education).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students are assessed frequently and regularly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teachers consistently take ownership for developing and/or adjusting the schedule to	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Survey of Alternative Scheduling Practices in Elementary Schools

meet the needs of the students.					
Teachers better understand the importance of their roles.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teachers are involved collaboratively with the principal on student placement decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teachers find it difficult to remain on schedule.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The principal shares test results frequently with all appropriate staff.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Staff members participate in the hiring process.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
All students are benefiting from the structure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teachers have daily and consistent unencumbered common planning time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teachers have difficulty aligning instruction with the schedule.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The number of pull-out programs has decreased.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Time on task for learning is evident throughout the school day.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A strong mentorship program is in place to orient new staff to the nuances of the schedule.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The principal makes some scheduling decisions without the input of staff.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The lowest teacher-pupil ratio is maintained during small group instruction in math and language arts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The district office determines the scheduling practices.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are multiple opportunities for all core, content specific, encore and intervention teachers to collaborate.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are more integrated learning opportunities for students with special needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Survey of Alternative Scheduling Practices in Elementary Schools

The school schedule is now a key consideration when hiring staff.

☐ ☐ ☐ ☐ ☐

Teacher leadership and involvement in the scheduling process has improved overall school operations.

☐ ☐ ☐ ☐ ☐

3. For each of the grade levels and each subject area listed below, please indicate the total minutes of daily instruction that are currently in place.

Reading & Language Arts

	<45	46-60	61-75	76-90	91-100	100+
K	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. For each of the grade levels and each subject area listed below, please indicate the total number of minutes of daily instruction that are currently in place.

Mathematics

	<45	46-60	61-75	76-90	91-100	100+
K	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Survey of Alternative Scheduling Practices in Elementary Schools

5. For each of the grade levels and each subject area listed below, please indicate the total number of minutes of daily instruction that are currently in place.

Social Studies

	<45	46-60	61-75	76-90	91-100	100+
K	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. For each of the grade levels and each subject area listed below, please indicate the total number of minutes of daily instruction that are currently in place.

Science

	<45	46-60	61-75	76-90	91-100	100+
K	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7. For each of the grade levels and each subject area listed below, please indicate the total number of minutes of daily instruction that are currently in place.

Music

	<45	46-60	61-75	76-90	91-100	100+
K	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Survey of Alternative Scheduling Practices in Elementary Schools

8. For each of the grade levels and each subject area listed below, please indicate the total number of minutes of daily instruction that are currently in place.

Art

	<45	46-60	61-75	76-90	91-100	100+
K	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. For each of the grade levels and each subject area listed below, please indicate the total number of minutes of daily instruction that are currently in place.

Physical Education

	<45	46-60	61-75	76-90	91-100	100+
K	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. For each of the grade levels and each subject area listed below, please indicate the total number of minutes of daily instruction that were in place in your school 5 years ago.

Reading & Language Arts

	<45	46-60	61-75	76-90	91-100	100+
K	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Survey of Alternative Scheduling Practices in Elementary Schools

11. For each of the grade levels and each subject area listed below, please indicate the total number of minutes of daily instruction that were in place in your school 5 years ago.

Mathematics

	<45	46-60	61-75	76-90	91-100	100+
K	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. For each of the grade levels and each subject area listed below, please indicate the total number of minutes of daily instruction that were in place in your school 5 years ago.

Social Studies

	<45	46-60	61-75	76-90	91-100	100+
K	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. For each of the grade levels and each subject area listed below, please indicate the total number of minutes of daily instruction that were in place in your school 5 years ago.

Science

	<45	46-60	61-75	76-90	91-100	100+
K	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Survey of Alternative Scheduling Practices in Elementary Schools

14. For each of the grade levels and each subject area listed below, please indicate the total number of minutes of daily instruction that were in place in your school 5 years ago.

Music

	<45	46-60	61-75	76-90	91-100	100+
K	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15. For each of the grade levels and each subject area listed below, please indicate the total number of minutes of daily instruction that were in place in your school 5 years ago.

Art

	<45	46-60	61-75	76-90	91-100	100+
K	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

16. For each of the grade levels and each subject area listed below, please indicate the total number of minutes of daily instruction that were in place in your school 5 years ago.

Physical Education

	<45	46-60	61-75	76-90	91-100	100+
K	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Survey of Alternative Scheduling Practices in Elementary Schools

17. Please indicate the total daily minutes of unencumbered planning time for the different categories of teachers.

	<35	35-40	41-45	46-50	60	60+
Core Teachers (K-6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Special Education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intervention Specialists (ELL, Reading, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Specialists (Art, Music, Library, Physical Education)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

18. Please indicate the total daily minutes allotted for Intervention/Enrichment of students during the school day when there is no introduction of new basic instruction.

- ☐ <35
☐ 35-40
☐ 41-45
☐ 46-50
☐ 60
☐ 60+

19. What is the lowest grade in your school?

- ☐ Pre-K
☐ K
☐ 1
☐ 2
☐ 3
☐ 4
☐ 5

20. What is the highest grade in your school?

- ☐ 1
☐ 2
☐ 3
☐ 4
☐ 5
☐ 6

*** 21. How many years have you been a Principal?**

- ☐ < 3
☐ 3-5
☐ 6-10
☐ 11-15
☐ 15+

Survey of Alternative Scheduling Practices in Elementary Schools

* 22. How many years have you served as Principal in this school?

- ☐ < 3
☐ 3-5
☐ 6-10
☐ 11-15
☐ 15+

* 23. How long has an alternative schedule been in place at your school?

- ☐ First year
☐ 2 years
☐ 3 years
☐ 4 years
☐ 5 years+

24. Please share any other comments/thoughts regarding alternative scheduling practices in elementary schools.

APPENDIX Q
MEANS AND STANDARD DEVIATIONS (SD)

Question	Mean	SD		Question	Mean	SD		Question	Mean	SD
1	4.3589	0.7891		15	4.2820	0.7367		29	4.2307	0.7193
2	4.2820	0.8201		16	4.5256	0.5025		30	4.3205	0.9601
3	4.0512	0.8041		17	4.5384	0.6177		31	2.0128	0.9186
4	4.1666	0.6916		18	1.9487	1.0677		32	3.4533	1.1542
5	4.1538	0.6852		19	4.0000	0.8583		33	4.3766	0.5139
6	4.4415	0.5958		20	3.6025	1.1547		34	4.1038	0.8520
7	4.6153	0.5636		21	4.4102	0.7966		35	3.2987	1.1927
8	3.9350	0.9081		22	4.3846	0.6881		36	3.9871	1.0505
9	4.6153	0.5636		23	3.7820	1.0647		37	2.3461	1.2672
10	4.6753	0.5487		24	4.1410	0.7682		38	3.5584	1.0820
11	4.3684	0.9358		25	4.3116	0.747		39	4.0384	0.8442
12	4.2948	0.6858		26	2.3974	1.1770		40	3.0129	1.3620
13	4.5	0.5754		27	4.4415	0.6976		41	4.1428	0.7559
14	3.5384	1.2760		28	3.6282	1.2598				

APPENDIX R

SURVEY COMMENTS

This is my 1st year at this school. This provided some challenge in answering a few of your questions.

I assisted with the implementation of a similar scheduling program at another Title I school and watched the increase in student achievement over the course of 4 years. I am confident that our implementation will foster the same results here.

Teachers plan for 1 hour 3 times a week (Mon. Wed. Fri.)...not daily. Tuesday and Thursday & time is used for prescriptive remediation

Scheduling is a great tool to manage all of the SOL needs of a VA school.

This building was opened in Fall 2006. We are in our second year.

There is simply not enough time in a regular school day to meet the needs of all the students in an effective manner. Something always has to give. For us, it has been social studies and science. Our core enrichment time (intervention and enrichment) needs to be extended for additional support, but it becomes borrowing from Peter to pay Paul. Can we eliminate lunch???? Our common scheduling has certainly tightened the day and helped to eliminate some of the wasted time which we used to see. In addition, it has enabled opportunities for more effective remediation, support and enrichment.

I think the solution to meeting mandates of NCLB and accountability for the achievement of children in general is HOW we use the time we have with them on a daily basis. A modified schedule like the parallel block maximizes EVERY moment of the day, efficiently and effectively utilizes ALL personnel (core, social studies, science, ESOL, SPED, etc.) We have got to get more creative about what we do with our time. This schedule also lends itself to more collaboration, focus on instructional discussions and decisions, engaged learning for 7 hours, etc. It has been great for students and staff and we are already seeing, in 6 months, some phenomenal results in terms of our assessment data!

The year round calendar has improved student achievement. Improved student and staff attendance. Also great strides in improved student behavior, and discipline referrals. All educators need to get on board for the future of our children!!!!

Block scheduling has allowed for quality math and reading instruction with fewer interruptions.

Our schedule allows us to have small group instruction and individualize according to the needs of students.

Your questions for Art Music & PE time are misleading. We do not have daily periods for these subjects. We rotate on a 6 day basis. We have increased our PE to every other day which is not reportable on this survey. Others are once every 6 days (Art, Music, Computer Lab, Guidance,

and Library).

Alternative scheduling ensures enough time for reading and language arts to be effective.

You can not answer the Art, PE, Music question on a daily basis. That is weekly 60 minutes of music and 90 minutes of PE weekly. Art is an hour per week. Same for the team planning. Some days they have an hour on other days they have a half hour. Plus they have PLC meetings every other week where everyone who works at that grade level comes, ESOL, Special Ed and classroom teachers, and technology, and LC coaches.

Research has shown us that building relationships with teachers is one key to children's school success. Insuring that the schedule provides time to make meaningful connections with a home base teacher and classmates is essential when building an alternative schedule.

The one greatest result other than student success has been the change in the school climate. The schedule has created more opportunities for collaboration and teaming as we build a professional learning community.

We have art and music once a week for half a year. They alternate. It is very difficult to plan a combined planning period that includes all the teachers outside the core.

We have resisted SOL/AYP pressure to cut fine arts time. We do more juggling of instructional time for science and social studies to gain uninterrupted time for language arts. We work hard on time for collaboration and planning but it is an elusive thing- hard to work out for the elementary teachers.

Planning time for Special Education teachers is very difficult trying to serve 2 or more grade levels with a small staff. Planning time for collaboration between SPED, ESOL and General Ed teachers is very difficult. These are the two most challenging problems with block scheduling.

Some of these questions were difficult to answer as the practice (i.e.: mentoring, sharing test results) are being done, but not because of the alternative scheduling.

The alternative scheduling practices in our school have increased learning in all subject areas.

When answering the no. of minutes for art, music and P.E., students get each one once a week but when they do it is for 50 minutes.

This new schedule has positively impacted student achievement as well as teacher morale.